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HARBORGATES

Rowes & Foster Wharves, Atlantic Ave., Boston, MA

Owner	Harborgates Associates
Developer	Tofias Corporate Real Estate Services
Architect	Moore-Héder, Architects
Engineer	Le Messurier Associates/SCI
Contractor	Vappi & Co, Inc.

August 31, 1982

Robert J. Ryan, Director
Boston Redevelopment Authority
City Hall, Room 925
One City Hall Square
Boston, MA 02201

RE: Harborgates
Rowes & Fosters Wharves
Atlantic Avenue/Boston, Massachusetts

Dear Mr. Ryan:

It is my pleasure, on behalf of Tofias Corporate Real Estate Services and Harborgates Associates, to submit our proposal to develop Rowes and Fosters Wharves on Atlantic Avenue in Boston, Massachusetts:

HARBORGATES

Harborgates is an exciting development solution to a difficult set of design guidelines. Our architects for this mixed-use project are Moore-Heder of Cambridge, with Le Messurier & Associates as consulting engineers. The Vappi Company of Cambridge will be our construction manager for this project. The basic components of the development are as follows:

Office & Retail Space	282,000 square feet
228 Condominiums	<u>423,000 square feet</u>
Total Building Area	705,000 square feet

Additional space constructed with this project include a Winter Garden of 25,000 square feet and garage and service areas below grade of 85,000 square feet.

Condominium development cost is \$84,737,700.

Commercial development cost is \$50,732,000.

Total project cost of \$135,469,700.

We estimate the condominium sale prices to be between \$300,000 and \$1,000,000 per unit.

JULIUS TOFIAS & COMPANY, INC.

Shovel Shop Square, Post Office Box 420
North Easton, Massachusetts 02356-0420
(617) 584-0600 Boston 364-5100



Society of Industrial Real Estate
Advisors

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Mr. Robert J. Ryan
August 31, 1982
Page Two

The total land lease payments to the Boston Redevelopment Authority are estimated to be \$1,510,000 per year in 1986.

The real estate taxes to the City of Boston are estimated to be approximately \$3,477,000 per year in 1986.

The development/design/construction team for Harborgates is as follows:

Owner	Harborgates Associates
Developer	Tofias Corporate Real Estate Services
Architect	Moore-Heder, Cambridge
Engineers	Le Messurier & Associates, Cambridge
Construction Manager	Vappi & Company, Cambridge
Mortgage Broker	Fowler, Goedecke, Ellis & O'Connor, Boston
Construction Financing	First National Bank of Boston, Boston
Legal	Bingham, Dana & Gould, Boston
Audit	Keith & Mareb, Brockton

Financing:

Construction Financing - The First National Bank of Boston, leading a group of commercial banks.

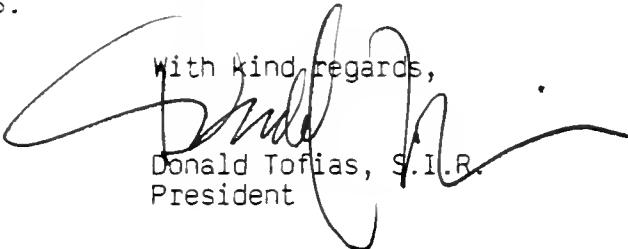
Condominium End Loans - A variety of sources will be utilized, including many of the Boston area banks. We also assume that many of the purchases will be all cash.

Commercial/Retail Space Permanent Loan - Debt equity package with an institutional lender.

Individual Equity - Limited Partners.

I have enjoyed putting together another major proposal for the City of Boston and am looking forward to commencing construction in the Fall of 1983 if designated as developer by the Boston Redevelopment Authority with a completion anticipated early in 1986.

With kind regards,


Donald Tofias, S.I.R.
President

Enclosures


DT:dp



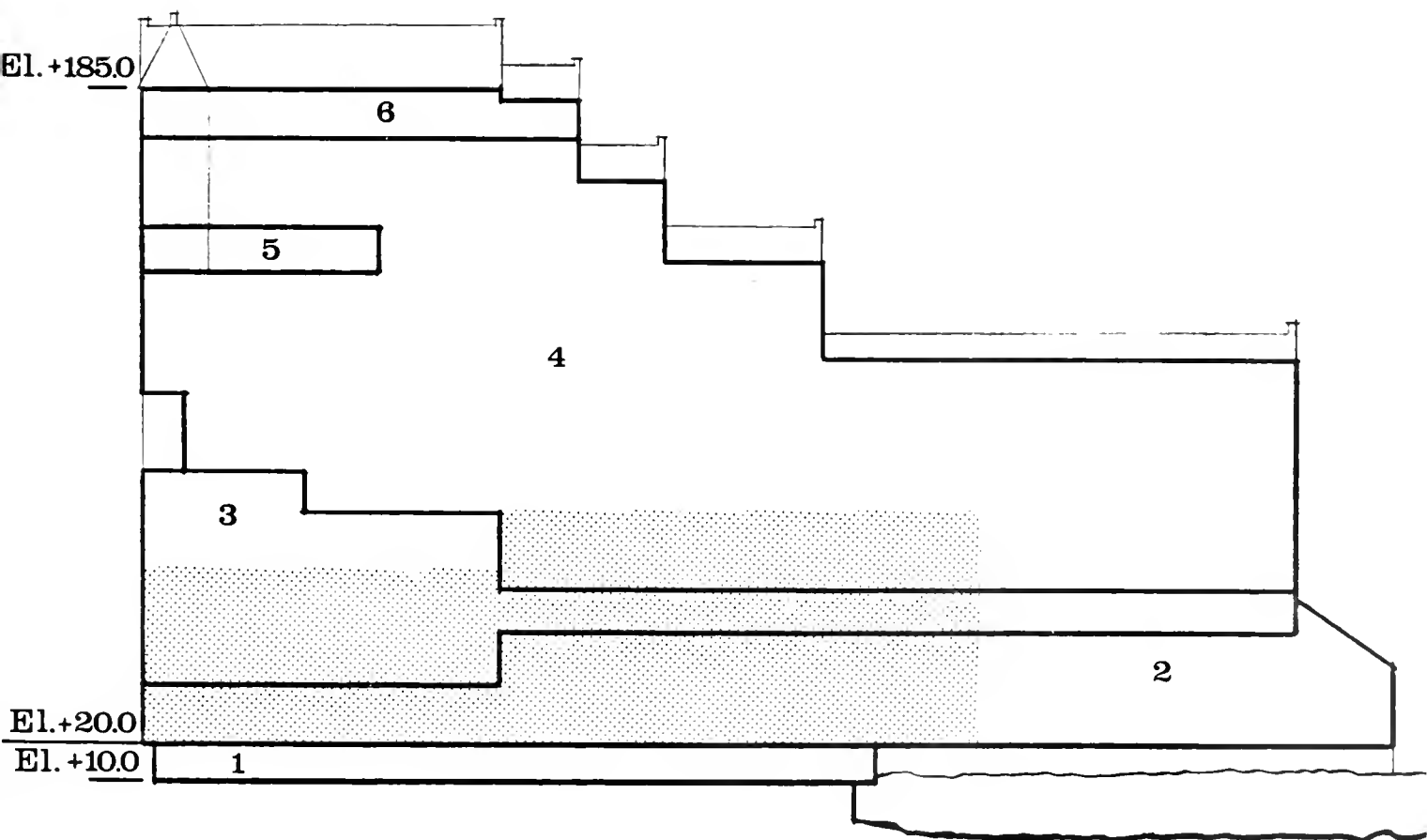
View from Broad Street toward Waterfront

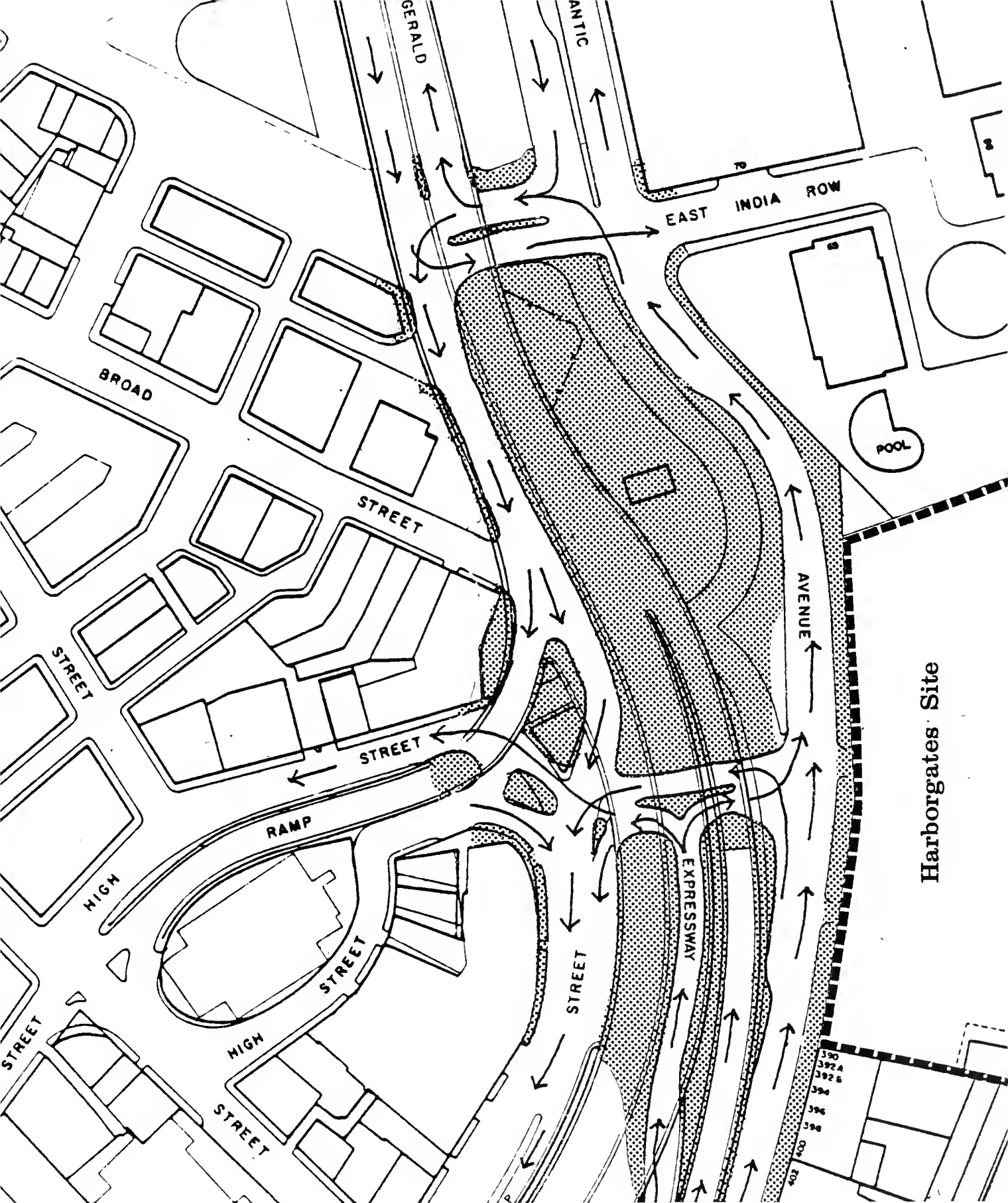
Building Use Diagram

Key

 Winter Garden and
Gateway Arch

- 1 Parking
- 2 Retail & Restaurants
- 3 Offices
- 4 Condominiums
- 5 Private Club
- 6 Penthouse Restaurant





Proposed Traffic Diagram

HARBORGATES
Project Description

The Design Concept:

The mix of uses, their disposition on the site, and design will insure that Harborigates will become one of the most attractive sites for enjoying the Boston Waterfront. It will be the only site where year-round public activity can occur comfortably at the water's edge. The terraced condominium apartments will be designed to become the most desirable places to live in Downtown Boston. At the same time, Harborigates will open some unique new opportunities for the public enjoyment of the Waterfront, which include:

- The Winter Garden, a major year-round public open space facing the Harbor
- A strong, direct pedestrian connection from the Financial District to the Waterfront
- Public outdoor spaces related to waterside activities
- A network of shopping arcades among these major spaces on the ground level
- Strong architectural images enhancing traditional forms with a sense of excitement and fantasy

These special public elements are described below in more detail:

The Winter Garden is a five-story, glass enclosed gateway from the City to the Harbor. The 25,000 square foot space is filled with trees, shrubs, cascading fountains, and terrace pools. It is a verdant island of tranquility within two blocks of the financial hub of New England. A stage will be for on-going noontime and early evening concerts. This space is designed to add a year-round public gathering space on the Waterfront where outdoor spaces are only comfortable six months of the year. The Winter Garden will be fully open to the public. Its ground level glass wall will be entirely removable in the warm seasons. It will be provided with appropriate shading, solar screening, and ventilation to make a functional passive solar structure for all seasons. Shops and restaurants will line the arcade adjacent to the Winter Garden. Seating will be provided within the Garden but no part of it will be reserved for exclusive commercial use. The Winter Garden will be directly adjacent to the Water Taxi Terminal and will have a full view of the Harbor. This is our gift of year-round greenery to the citizens of Boston. The cost of the Winter Garden is estimated at \$5,000,000.

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Connections to the Financial District. Harborgates will create a connection to the Waterfront from the Financial District at Broad and High Streets that will parallel and complement the "walk to the sea" from Government Center to Faneuil Hall Marketplace. A 70-foot wide, 40-foot high open gateway arch faces the axis of Broad Street. The towers flanking this archway emphasize its symbolic importance. Additionally, arcades at the North and South edges of the site invite access to the Waterfront.

To complement the site plan, significant pedestrian improvements are proposed at street level. The current traffic patterns make pedestrian access difficult and uncomfortable. Moore-Heder, having had considerable experience with traffic planning and pedestrian improvements (including work on Downtown Crossing), have recommended that the redundancy of the two-way Atlantic Avenue and two-way under Artery Road could be eliminated at this section by continuing the one-way pair from the south at least to East India Row. The northbound to southbound crossover could be shifted to the south by 120 feet.

These changes would provide a generous traffic-free area under and next to the Artery. The Traffic Diagram enclosed indicates these proposed changes. The Ground Level Plan shows the opportunities for providing walkways, lighting, a park along Atlantic Avenue, vendor stands, and a small amount of surface parking under the Artery. One significant benefit of an improved pedestrian crossing at this point would be the ability to use Financial District parking facilities for Waterfront shoppers and recreational visitors during non-working hours.

If the City of Boston and the Massachusetts Department of Public Works agreed to implement these changes, the developer of Harborgates would bear the cost of improvements and amenities shown on the plan. Details of this plan would then be further developed in collaboration with the Boston Redevelopment Authority and the Boston Traffic Department.

Public Outdoor Spaces at this site, in addition to the Winter Garden, include the Tall Ship Park, the Water Taxi Landing, and the Boat Terminal Park, as shown on the ground floor plan. The developer will purchase and/or build a 100 foot sailing ship which will be berthed at the Tall Ship Park. The Water Taxi Landing will have covered access from the Winter Garden, which will include a floating dock and will provide service to Logan Airport, the Charlestown Navy Yard, Museum Wharf, the Harbor Islands, and other points of interest. The Boat Terminal will be located at the northeast corner of the site, which will include indoor and protected outdoor passage areas and will connect to Atlantic Avenue through a series of arcades and a mini-park.

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The Network of Shopping Arcades designed for the site will insure lively, continuous activity throughout the ground floor of the complex from early morning through midnight. Arcades line the edges of the Winter Garden, parallel the sidewalk along Atlantic Avenue, and make several intimate connecting passages among the major open spaces.

Ground Floor Retail Space - 64,000 square feet. Moore-Heder has created an exciting retail atmosphere on the ground floor at the Atlantic Avenue street level of Harborigates. The main entrance to the complex building form is through a four-story, glass enclosed gateway fronting onto Atlantic Avenue. The arched gateway is on a direct sight line from the Broad Street and High Street corridors. Once through the glass gateway, the building is "U"-shaped surrounding three sides of the Winter Garden. We anticipate having two restaurants, one conventional, and one informal. Other retail activities will include a combination of take-out-food, gifts, clothing, and shoes. We envision that the project will be a complement to Faneuil Hall Marketplace, not a competitor. Our shops will be less tourist oriented trade but will have shoppers from the Downtown office buildings and residents of the Waterfront.

The Architectural Images of Harborigate are considered very important for its success. From the City side, the gateway function became the central theme, hence the name "Harborigates", the Archway and Winter Garden will be transparent extending an explicit invitation. From the water side, the massing of the wharf shapes, formally flanking the glass enclosure of the Winter Garden, will provide an elegant arrival point. The view of greenery and lights through the glass will enhance this effect at night. The cascading terraces and solar greenhouses in the residential portion of Harborigates will further enrich this view. The overall sense will be of great luxury and an open invitation to to a place where historic forms are a fresh and unique place to live, work, and play.

Office Space totalling 194,000 square feet on floors two to six is primarily designed for smaller professional tenants. Many office areas will have ocean views but some of the best space looks back towards the City high-rise skyline.

Residential Condominiums. 228 units totalling 423,000 square feet of gross floor area. The condominiums are on floors two through fifteen. There are 28 one bedroom, 159 two bedroom, and 41 three bedroom condominiums. These units will be priced as super luxury units and sold as shells: bathrooms and kitchens without finishes or fixtures. These will be some of the highest priced condominiums in the City. Suggested prices range from \$250,000 for the lower level one bedroom units up to \$1,000,000 for the penthouses. Individual units can be finished for as little as \$50,000 by the developer.

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The condominium owners will become members of the Harborgates health and dining club, which will provide dining room, lounge, health club, exercise room, large hot tub, sun deck, room service, cleaning, and valet service 24 hours a day. A concierge and doorman will service each elevator. Condominium owners will be encouraged to furnish their own interior spaces without the installation of standardized kitchens and bathrooms.

Living at Harborgates will afford residents complete hotel service, while still owning their own houses.

Boat Terminal. As requested, we have provided a commuter boat terminal with inside and outside waiting areas and docking space. We reserve the right to negotiate with any and all boat operators or to establish an affiliated company to operate a commuter boat service to the north and south shores.

Boston Water Taxi Company. We intend to fully explore the possibility of establishing an affiliated company to own and operate a taxi service on Boston Harbor. Our initial studies indicate that a Harborgates-to-Logan service would be especially popular due to the early morning and late afternoon tunnel congestion. Other runs would include: Constitution Wharf, Pier 4, Jimmy's, etc.

"Boston" Schooner. We intend, as part of our Harbor edge improvements, to buy, rebuild, or build a new 80-120 foot Schooner to be permanently berthed at the south end of Harborgates Wharf. The yacht would be fully rigged and operated by an affiliated entity as a party boat for Harbor and local cruising and for sail training for the children and teenagers of Greater Boston.

Waterfront. The Harbor edge of the project is a continuous pedestrian walkway with access to Atlantic Avenue through the main gate. Boat access to the wharf will be limited to the Schooner "Boston", the Water Taxis, and the commuter boats. In addition, private yachts will be permitted to tie up and dock at the wharf for limited periods of time. In no case will a marina for extended yacht berthing be considered. We intend to keep the wharf edge free and open to the Harbor, without the clutter of private boats. The Schooner, Taxi, and Ferry will be sufficient to establish the seaside quality of the project. With the other marina projects in the area and the planned Fort Point Channel Marina, we feel our position reasonable.

Specific Response to BRA Design Guidelines:

Uses:

- A. A mixed-use development is proposed with 228 residential condominiums of 423,000 gross square feet and office and retail space of 282,000 gross square feet.

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- B. The ground floor of the buildings is exclusively devoted to public and active commercial uses and contains shops, restaurants, arcades, building lobbies, and the Winter Garden.
- C. The Boat Terminal includes 8,000 square feet of interior space and 10,000 square feet of outdoor boarding area with weather protection.
- D. The water edge is continuously open to the public and is reserved for pedestrian uses and three distinct boating activities (the Tall Ship Berth, Water Taxi Landing, and Ferry slip).
- E. 300 parking spaces are provided at elevation 10.0 below the main ground level, which is at 20.0 (Atlantic Avenue sidewalks are currently at 18.0). This scheme will necessitate some costly construction slightly below mean high tide level of 13.0, but this is the most feasible solution according to our engineers (Le Messurier Associates and McPhail Associates). Some parking spaces are omitted and replaced by large planters to allow the planting of full-sized trees at ground level.
- F. Two loading docks for goods delivery will be provided at ground level, accessible from Atlantic Avenue and fully enclosed with garage doors - these will serve directly the service elevators for each of the towers. Service to the stores will be distributed from these two areas.

Massing and Building Height:

- A. Overall building area (not counting below grade parking and the Winter Garden) is 705,000 square feet or 39,000 square feet in excess of the allowable FAR. This could be brought well within an FAR 4 if a transfer of development rights for the approximate 25,000 square feet of additional public open space landscaped by the developer were considered. If this is not feasible, the building volume can be reduced to within the allowable 665,600 square feet, if necessary.
- B. The height of the top cornice line on the two blocks is 165 feet. The tops of the two towers and uppermost skylights would extend about 20 feet above this line in order to give a more dramatic appearance to the skyline, particularly as viewed down Broad Street and as approached from the Harbor. These key note elements will be slender and will cast no shadows or block light from any adjacent area.

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- C. The Atlantic Avenue facade was designed to accent the opening at the Arch and to scale down to the more moderate building heights to the south. The building mass has an active horizontal scale in contrast to the severe verticality of Harbor Towers.
- D&E. Restaurants projecting closest to the water are only a single story in height. The massing steps back throughout the site to provide maximum views from the apartments. The "wharf shapes" of the two building volumes relate to traditional building masses along the harbor. The pitched roofs on these blocks further improve the views from the higher volumes behind them.
- F. The massing, focused on the generous gateway openings, was conceived not only to avoid barriers between the Downtown and the Waterfront, but to celebrate and enhance this second walk to the sea.

Open Space:

- A. Including the Winter Garden, 58% (in excess of the 50% required) of the site is open to the public at the ground level to at least the underside of the 4th floor.
- B. All open spaces have been designed for specific purposes and are related to activities generated by the building and at the water's edge.
- C. Amenities include lighting, shade, seating, and landscaping, plaza paving, and kiosks as well as the year-round Winter Garden. The festive lighting theme and landscaping of the site will be continued along the proposed Under Artery walkways to eliminate the presently gloomy, disruptive quality of these passages.

Public Pedestrian Access and Vistas through the Site:

- A. Visual access to the Harbor is maintained through the Gateway Arch and at the north and south edges of the site.
- B. 400 Atlantic Avenue Access and Vista
 - 1. A 30 foot wide open space is provided along the southern edge of the site.
 - 2. No structure is built over this space to allow the windows that now face in this direction to continue receiving daylight and views.

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C. Broad Street Access and Vista

1. The Gateway Arch is 70 feet wide and aligns with Broad Street. Vistas through the arch will be open to the Winter Garden and through the all glass wall to the east to the Harbor. The glass line in the arch at the Atlantic Avenue side will be recessed 30 feet beyond the building line to minimize reflection and maximize transparency.
2. No structure, other than the glass walls, will be built below the 4th floor level along this vista. The glass walls were judged preferable to avoid an uncomfortable wind tunnel effect that would make this passage unattractive in the colder months if it were left entirely open.
3. Access and views to the Boat Terminal and docking area are provided along the northern edge of the site.

D. High Street Access and Vista

1. A sequence of open spaces along the northern boundary of the site, ranging in width from 35 feet to 100 feet, connect Atlantic Avenue to the Boat Terminal by the water's edge.
2. Amenities include trees, benches, lighting, varied pavement and paths, and picnic areas.
3. The treatment will relate to the present landscaping of Harbor Towers and augment the mostly private uses now located there with lively public spaces on the Harbortowers side.

E. A continuous open public path will be provided along the water's edge from 400 Atlantic Avenue to Harbor Towers. At key activity points the public place widens into generous park areas to accommodate both pedestrian flow and water use.

F. Significant improvements are proposed to adjacent public streets:

1. The Atlantic Avenue sidewalk will be supplemented by a 10 foot side arcade raised 2 feet above the street level to give some separation from the heavy traffic along the street.
2. Links to Broad Street and High Street under the Artery will be improved with the Under Artery Market, Atlantic Avenue Park, proposed traffic changes, landscaping, lighting, and signing. This connection can be greatly enhanced by some traffic flow changes discussed earlier.

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- G. 1% of the above-grade construction cost will be devoted to works of art. As part of a recent major research project for the United States Department of Transportation, Moore-Heder has studied the most successful public art programs around the Country and will use this experience to set up a significant art program for Harborgates (see publication - "Aesthetics in Transportation", United States Department of Transportation). Our general sense is that emphasis should be placed on the use of local artists and the use of artists and crafters to integrate with building details and Harborside activities.

Materials:

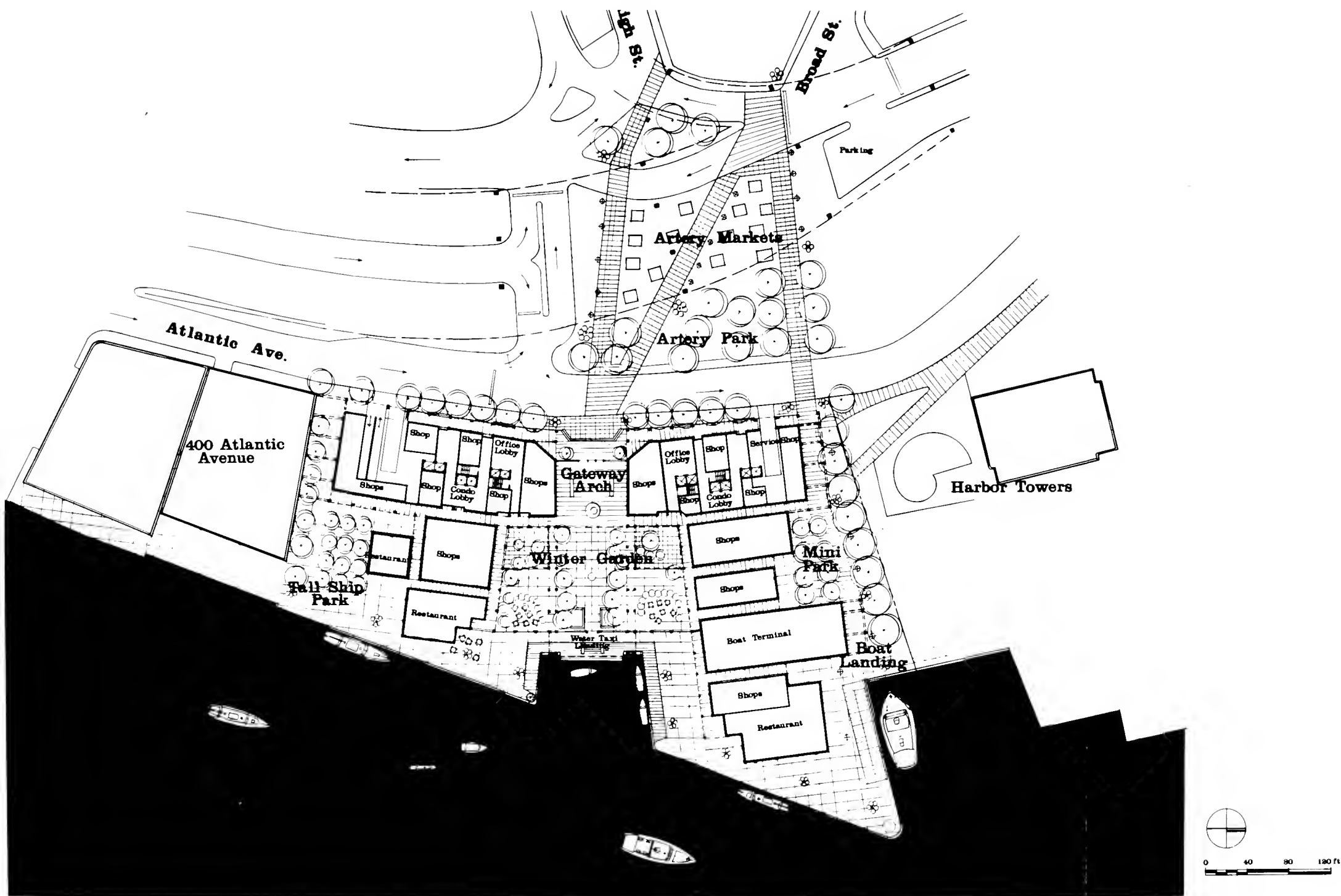
The major building materials will be brick veneer over steel framing (the latter required to keep foundation loads to a minimum). Rough granite facing will be used at the piers and arches of the lower levels, sills and lintels and some of the cornices. The Winter Garden will have light steel framing supporting an all glass roof with arched trusses at the center reflecting the masonry Gateway Arch. Energy conservation will be achieved through a careful passive solar design of all greenhouse elements: Summer shading, heat storing masonry and water elements, movable insulation for nighttime, ventilation and air ducting to avoid heat layering.



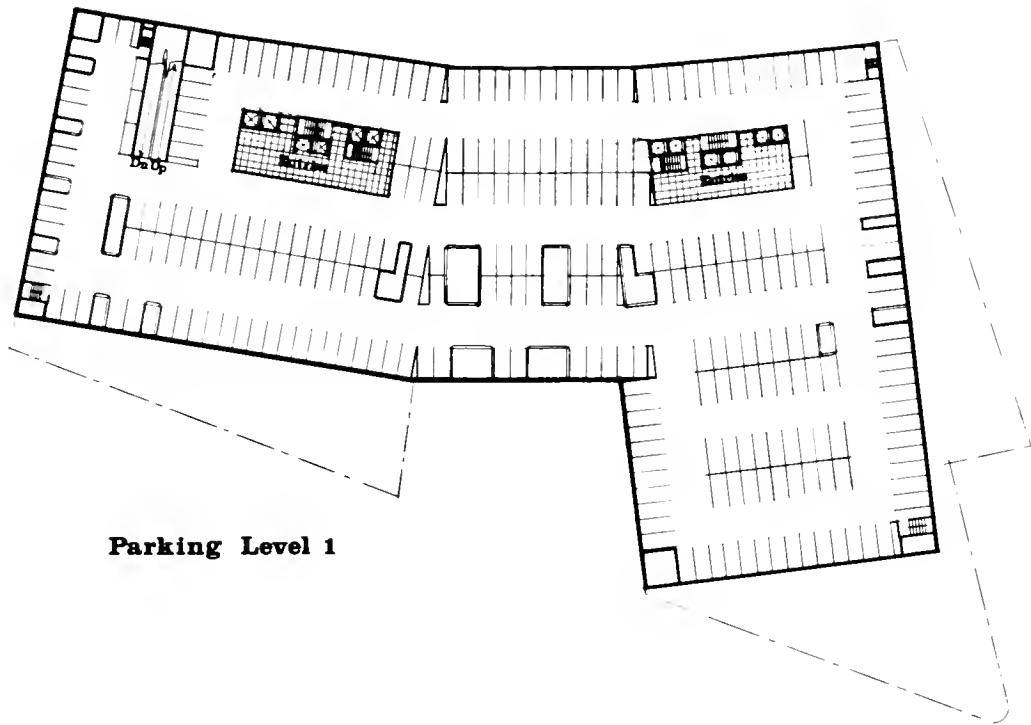
HARBORGATES

Rowes & Foster Wharves, Atlantic Ave., Boston, MA

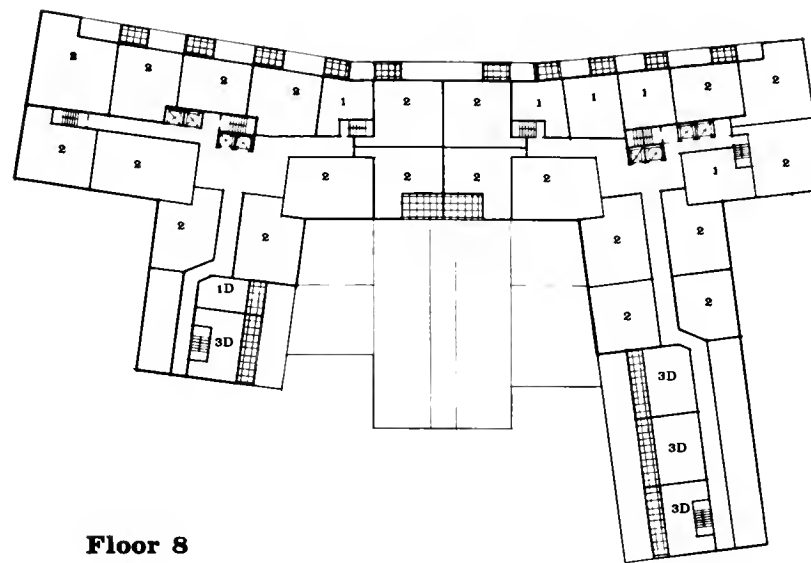
Owner	Harbortates Associates
Developer	Tofias Corporate Real Estate Services
Architect	Moore H&C, Architects
Engineer	Le Messurier Associates/SCI



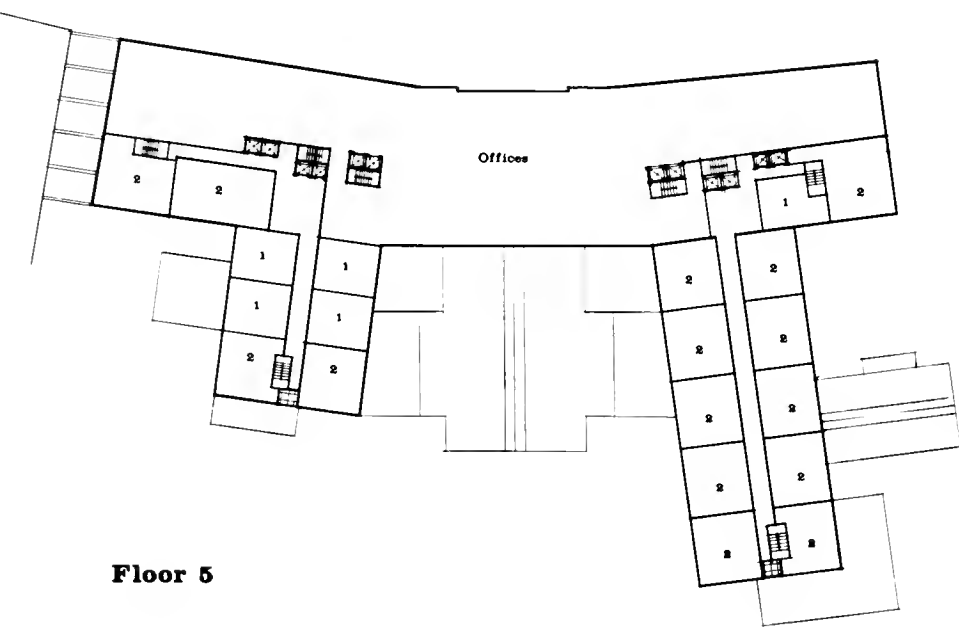
Ground Level Plan



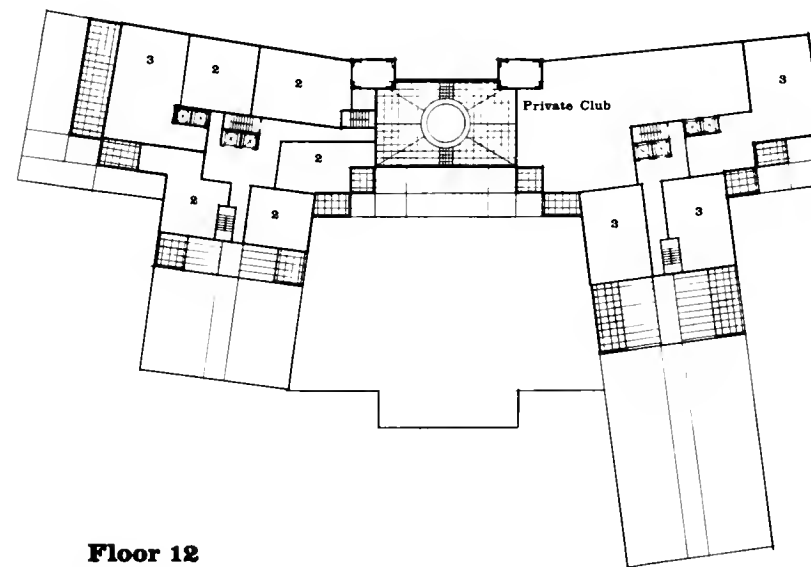
Parking Level 1



Floor 8



Floor 5

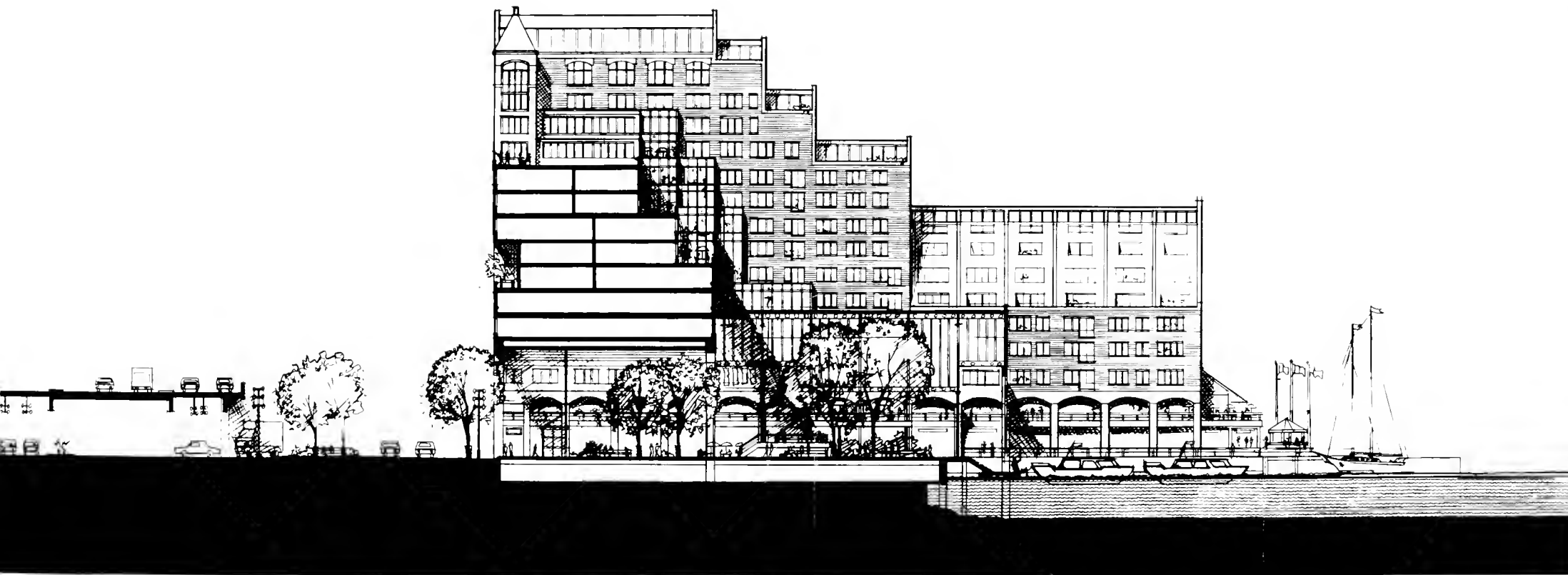


Floor 12

Floor Plans

Owner Harbort Associates
 Developer Toffas Corporate Real Estate Services
 Architect Moore Heder Architects
 Engineer Le Mesurier Associates/SCI

HARBORGATES
 Rowes & Foster Wharves, Atlantic Ave., Boston, MA



East-West Cross Section

0 20 40 60 ft



West Elevation



HARBORGATES
Rowes & Foster Wharves, Atlantic Ave., Boston, MA

Owner	Harborgates Associates
Developer	Tofias Corporate Real Estate Services
Architect	Moore-Hélier, Architects
Engineer	Le Messurier Associates/SCI

DEVELOPMENT PRO FORMA FOR CONDOMINIUMS
 (Estimates in 1983 Dollars)

Number of Units		228
Mix of Units		
1 Bedroom	28	
2 Bedroom	159	
3 Bedroom	41	
TOTAL	<u>228</u>	
Average Unit Square Footage		1,670 sf/unit
Gross Square Footage of Project (exclusive of garage & Winter Garden)		705,000 sf
Net Square Footage		
Residential	423,000 gsf	380,700 nsf
Commercial	<u>282,000</u>	<u>246,000</u>
TOTAL	<u>705,000 gsf</u>	<u>626,700 nsf</u>
Winter Garden	25,000 sf	
Garage	85,000 sf	
Parking Spaces	300	

Construction Costs

New (\$75 psf x 423,000 gsf)	\$31,725,000	
Site Prep. (\$10,000,000 x 60%)	6,000,000	
Premium Costs	2,500,000	
Parking (200 @ \$10,000 ea.)	2,000,000	
TOTAL		\$42,225,000

Related Costs

Developer Fee	\$ 1,000,000
Architect/Engineers	1,500,000
Construction Loan Interest (30 mos. @ 12% on \$50,000,000)	15,000,000
Real Estate Taxes (\$1,000/unit/yr. x 2-1/2 yrs.)	570,000

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Condominium Carrying Cost (sale period - 18 months)	9,000,000	
Land Lease Payments (\$1,000/unit/yr. x 4 yrs.)	912,000	
Legal/Audit	300,000	
TOTAL		<u>\$28,282,000</u>
Total		\$70,507,000
Contingency (9.22% of \$70,507,000)		<u>\$ 6,500,700</u>
Total Condominium Development Cost		\$77,007,700
Winter Garden/Schooner/Expressway (50% of \$6,000,000)		<u>\$ 3,000,000</u>
Total		<u>\$80,007,700</u>

Condominium Sale Proceeds

Mix

<u># Bdrm</u>	<u>Purchase Price</u>	<u># Units</u>	<u>Proceeds</u>
1 Bdrm	\$ 300,000	28	\$ 8,400,000
2 Bdrm	400,000	159	63,600,000
3 Bdrm	500,000	35	17,500,000
3 Bdrm-TH	700,000	3	2,100,000
3 Bdrm-PH	1,000,000	3	3,000,000
		228 units	

Gross Sales Proceeds \$94,600,000

$$\frac{\text{Gross Sale Proceeds}}{\text{Net Square Footage}} = \frac{\$94,600,000}{380,700} = \$248/\text{nsf}$$

Less Marketing Fees (5% of gross sales) (4,730,000)

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Less Total Condominium Development Costs	(80,007,700)
$\frac{\text{Total Condo. Cost}}{\text{Net Square Footage}} = \frac{\$80,007,700}{380,700} = \$210/\text{nsf}$	(84,737,700)

Net Profit (before taxes)	<u>\$ 9,862,300</u>
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Debt/Equity Participation (100% of condominium cost)	\$81,737,700
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Terms of Debt/Equity Participation
 (12% interest only on all money borrowed
 plus 50% on the profit of condominium
 sales)

50% Condominium Profit	\$ 4,931,150
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Return on Institutional Investor Equity	$\frac{\$19,931,150}{81,737,700} = 24.38\%$
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Return on Individual Investors Equity	$\frac{\$ 2,465,575}{3,000,000} = 82.17\%$
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Investors would wait 4 years for return with the time value of money return being closer to 10% as compared with more traditional and safer investments.

Residential Construction Loan	30 months
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Marketing Period	18 months
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Total Time Frame from ground breaking through last unit sold	48 months
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Total Development Cost	\$77,007,700
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Marketing Fees	4,730,000
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Total Project Cost	\$81,737,700
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Individual Investors (25% of condominium profit)	<u>\$ 3,000,000</u>
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	<u>\$84,737,700</u>
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COST OF OWNERSHIP PRO FORMA FOR CONDOMINIUM UNIT
 (Estimates in 1985 Dollars Using 7% Inflation Factor from 1982)

Net Square Footage		380,700 sf
# Units		228
Average Unit Size		1,670 sf
Average Unit Price	$\frac{\$94,600,000}{228}$	\$414,912/unit
Downpayment (50%)		\$207,456/unit

Common Area Charge (\$4.00 psf x 1,670)	\$ 6,680/year	
Land Lease (1% of purchase price/year)	\$ 4,149/unit	
Real Estate Taxes (2-1/2% of purchase price/year)	\$10,000/year/unit	
Mortgage Financing (\$207,456 @ 14% x 20 yrs.)	\$31,323/year	
Harborgates Club Membership (\$250/month)	\$ 3,000/year	
Total Annual Cost of Ownership (before taxes)		\$55,152/year
Total Monthly Cost of Ownership (before taxes)		\$ 4,596/month

DEVELOPMENT PRO FORMA FOR COMMERCIAL PROPERTY
(Estimates in 1983 Dollars)

Total Gross Square Footage 282,000 gsf

Office	194,000 sf
Retail	62,000 sf
Terminal	8,000 sf
Harborgates Club	18,000 sf

Total Net Square Footage 246,000 nsf

Office	140,000 sf
Retail	60,000 sf
Terminal	8,000 sf
Harborgates Club	18,000 sf

Number of Parking Spaces 100 spaces

Total Garage Parking 300 spaces

Construction Cost

Office/Retail/terminal/club (\$75 pgsf x 282,000)	\$21,150,000	
Site Preparation (40% of \$10,000,000)	4,000,000	
Premium Costs	1,500,000	
Parking (100 cars @ \$10,000/car)	1,000,000	
TOTAL		\$27,650,000

Related Costs

Marketing/Brokerage (\$4 psf x 266,000*)	\$ 1,064,000	
Development Fee	600,000	
Architect/Engineer	1,500,000	
Legal/Audit	100,000	
Construction Loan (36 mos. @ 12% on \$33,000,000)	11,880,000	
Real Estate Taxes (\$1 psf/yr. x 3 yrs.)	846,000	
Land Lease - 3 years (\$2 psf/yr. x 3 yrs.)	1,692,000	
TOTAL		\$17,682,000

* No marketing for ferry area or club (26,000 sf)

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Total Construction Costs	\$27,650,000
Total Related Costs	\$17,682,000
Contingency (7.27% of \$33,000,000)	<u>\$ 2,400,000</u>
Total	\$47,732,000
Winter Garden/Schooner/Expressway (\$6,000,000 x 50%)	<u>\$ 3,000,000</u>
Total Commercial Development Cost	<u>\$50,732,000</u>

OPERATING PRO FORMA FOR COMMERCIAL PROPERTY
 (Estimates in 1985 Dollars Using 7% Inflation Factor from 1982)

Commercial Income

Office (194,000 nsf @ \$40 psf)	\$7,760,000	
Retail (62,000 nsf @ \$50 psf)	3,100,000	
Terminal (8,000 nsf @ \$30 psf)	240,000	
Club (18,000 nsf @ \$40 psf)	720,000	
TOTAL		\$11,820,000

Vacancy (10%) (1,182,000)

Effective Gross Income \$10,638,000

Operating Expenses

Office (194,000 nsf @ \$5 psf)	\$ 970,000	
Retail (62,000 nsf @ \$5 psf)	310,000	
Terminal (8,000 nsf @ \$2 psf)	16,000	
Club (18,000 nsf @ \$6 psf)	108,000	
Parking (50,000/year)	50,000	
TOTAL		(\$1,454,000)

Real Estate Taxes

Office (\$4 psf)	\$ 776,000	
Retail (\$4 psf)	248,000	
Terminal (\$2 psf)	16,000	
Club (\$4 psf)	72,000	
TOTAL		<u>(1,112,000)</u>

Total (\$2,566,000)

Net Income before Debt & Equity Return \$ 8,072,000

Land Lease Payment (\$ 564,000)

Total \$ 7,508,000

Debt/Equity (12% on \$47,732,000 for 30 years) (5,290,737)

Cash Flow \$ 2,217,263

- 2 -

Developer & Individual Investor Cash Flow (1,108,631)

Institutional Contingent Interest Portion of Cash Flow \$ 1,108,632

Total Return to Institutional Debt/Equity

\$5,290,737
\$1,108,632
 \$6,399,369

Total Return/Commercial for Institutional Investor

$\frac{\$ 6,399,369}{47,732,000} = 13.41\%$

Return/Commercial for Individual Equity Investors

$\frac{\$ 221,726}{3,000,000} = 7.39\%$

SUMMARY

Total Residential	\$ 81,737,700
Total Commercial	47,732,000
Winter Garden (25,000 sf)	5,000,000
Schooner (100 ft.)	500,000
Expressway Access	500,000
Total	\$135,469,700

705,000 sf	\$192 psf
730,000 sf	185 psf (includes Winter Garden)
815,000 sf	166 psf (includes Winter Garden & Garage)

Institutional Equity/Debt	\$129,469,700
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Residential - 12% interest + 50% sale proceeds profit
 Commercial - 12% interest + 50% cash flow

Individual Equity	<u>\$ 6,000,000</u>
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Residential - 25% of condominium profit	<u>\$135,469,700</u>
Commercial - 10% of commercial cash flow	
80% of depreciation	

Benefits to Boston (estimated 1986)

Land Lease (to BRA)

Residential	\$ 946,000	
Commercial	564,000	
TOTAL		\$ 1,510,000/year

Real Estate Taxes (to City)

Residential	\$ 2,365,000	
Commercial	1,112,000	
TOTAL		<u>\$ 3,477,000</u>

Total	<u>\$ 4,987,000/year</u>
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PART I

MUD-6004
(9-69)

REDEVELOPER'S STATEMENT FOR PUBLIC DISCLOSURE¹

A. REDEVELOPER AND LAND

1. a. Name of Redeveloper: Harborgates Associates
- b. Address and ZIP Code of Redeveloper: Post Office Box 420
North Easton, MA 02356
- c. IRS Number of Redeveloper: Donald Tofias #
Arnold Tofias #
2. The land on which the Redeveloper proposes to enter into a contract for, or understanding with respect to, the purchase or lease of land from

Boston Redevelopment Authority

(Name of Local Public Agency)

in Waterfront Redevelopment Area

(Name of Urban Renewal or Redevelopment Project Area)

in the City of Boston, State of Massachusetts,
is described as follows²

Rowes & Fosters Wharves, Atlantic Avenue, Boston

3. If the Redeveloper is not an individual doing business under his own name, the Redeveloper has the status indicated below and is organized or operating under the laws of Massachusetts:

- ☐ A corporation.
- ☐ A nonprofit or charitable institution or corporation.
- ☐ A partnership known as
- ☒ A business association or a joint venture known as Harborgates Associates
- ☐ A Federal, State, or local government or instrumentality thereof.
- ☐ Other (explain)

4. If the Redeveloper is not an individual or a government agency or instrumentality, give date of organization.

Arnold B. Tofias and Donald Tofias

5. Names, addresses, title of position (if any), and nature and extent of the interest of the officers and principal members, shareholders, and investors of the Redeveloper, other than a government agency or instrumentality, are set forth as follows:

¹ If space on this form is inadequate for any requested information, it should be furnished on an attached page which is referred to under the appropriate numbered item on the form.

² Any convenient means of identifying the land (such as block and lot numbers or street boundaries) is sufficient. A description by metes and bounds or other technical description is acceptable, but not required.

- a. If the Redeveloper is a corporation, the officers, directors or trustees, and each stockholder owning more than 10% of any class of stock¹
- b. If the Redeveloper is a nonprofit or charitable institution or corporation, the members who constitute the board of trustees or board of directors or similar governing body.
- c. If the Redeveloper is a partnership, each partner, whether a general or limited partner, and either the percent of interest or a description of the character and extent of interest.
- d. If the Redeveloper is a business association or a joint venture, each participant and either the percent of interest or a description of the character and extent of interest.
- e. If the Redeveloper is some other entity, the officers, the members of the governing body, and each person having an interest of more than 10%.

<u>NAME, ADDRESS, AND ZIP CODE</u>	<u>POSITION TITLE (if any) AND PERCENT OF INTEREST OR DESCRIPTION OF CHARACTER AND EXTENT OF INTEREST</u>
Arnold B. Tofias 81 Ridge Avenue Newton, MA 02159 c/o P.O. Box 420, North Easton, MA	50%
Donald Tofias 63 Fairbanks Avenue Wellesley, MA 02181 c/o P.O. Box 420, North Easton, MA	50%

6. Name, address, and nature and extent of interest of each person or entity (not named in response to Item 5) who has a beneficial interest in any of the shareholders or investors named in response to Item 5 which gives such person or entity more than a computed 10% interest in the Redeveloper (for example, more than 20% of the stock in a corporation which holds 50% of the stock of the Redeveloper; or more than 50% of the stock in a corporation which holds 20% of the stock of the Redeveloper).

<u>NAME, ADDRESS, AND ZIP CODE</u>	<u>DESCRIPTION OF CHARACTER AND EXTENT OF INTEREST</u>
------------------------------------	--

7. Names (if not given above) of officers and directors or trustees of any corporation or firm listed under Item 5 or Item 6 above:

B. RESIDENTIAL REDEVELOPMENT OR REHABILITATION

(The Redeveloper is to furnish the following information, but only if land is to be redeveloped or rehabilitated in whole or in part for residential purposes.)

¹ If a corporation is required to file periodic reports with the Federal Securities and Exchange Commission under Section 13 of the Securities Exchange Act of 1934, so state under this Item 5. In such case, the information referred to in this Item 5 and in Items 6 and 7 is not required to be furnished.

1. State the Redeveloper's estimates, exclusive of payment for the land, for:

- a. Total cost of any residential redevelopment. \$
- b. Cost per dwelling unit of any residential redevelopment. \$
- c. Total cost of any residential rehabilitation \$
- d. Cost per dwelling unit of any residential rehabilitation \$

2. a. State the Redeveloper's estimate of the average monthly rental (if to be rented) or average sale price (if to be sold) for each type and size of dwelling unit involved in such redevelopment or rehabilitation:

TYPE AND SIZE OF DWELLING UNIT	ESTIMATED AVERAGE MONTHLY RENTAL	ESTIMATED AVERAGE SALE PRICE
	\$	\$
1 Bedroom Unit		\$ 300,000.
2 Bedroom Unit		\$ 400,000.
3 Bedroom Unit		\$ 600,000.

b. State the utilities and parking facilities, if any, included in the foregoing estimates of rentals:

Utilities - All (gas, water, sewer, electricity, telephone, TV monitor, TV cable, and telecommunications).
Parking - 300 car garage (200 cars for 228 units).

c. State equipment, such as refrigerators, washing machines, air conditioners, if any, included in the foregoing estimates of sales prices:

CERTIFICATION

I (We) Donald Tofias and Arnold B. Tofias, General and Limited Partners in Harborgates Associates

certify that this Redeveloper's Statement for Public Disclosure is true and correct to the best of my (our) knowledge and belief.²

Dated: _____

Dated: 8/31/82

Signature

Signature

Title

Title

Address and ZIP Code

P.O. Box 420 North Epton MA

Address and ZIP Code 02346

¹ If the Redeveloper is an individual, this statement should be signed by such individual; if a partnership, by one of the partners; if a corporation or other entity, by one of its chief officers having knowledge of the facts required by this statement.
² Penalty for False Certification: Section 1001, Title 18, of the U.S. Code, provides a fine of not more than \$10,000 or imprisonment of not more than five years, or both, for knowingly and willfully making or using any false writing or document, knowing the same to contain any false, fictitious or fraudulent statement or entry in a matter within the jurisdiction of any Department of the United States.

PART II

HUD-6004
(9-69)

REDEVELOPER'S STATEMENT OF QUALIFICATIONS AND FINANCIAL RESPONSIBILITY

(For Confidential Official Use of the Local Public Agency and the Department of Housing and Urban Development. Do Not Transmit to HUD Unless Requested or Item 8b is Answered "Yes.")

1. a. Name of Redeveloper: Harborgates Associates
b. Address and ZIP Code of Redeveloper: Post Office Box 420, North Easton, MA 02356

2. The land on which the Redeveloper proposes to enter into a contract for, or understanding with respect to, the purchase or lease of land from

Boston Redevelopment Authority

(Name of Local Public Agency)

in Waterfront Redevelopment Area

(Name of Urban Renewal or Redevelopment Project Area)

in the City of Boston State of Massachusetts

is described as follows:

Rowes & Fosters Wharves, Atlantic Avenue, Boston

3. Is the Redeveloper a subsidiary of or affiliated with any other corporation or corporations or any other firm or firms? ☒ YES ☐ NO

If Yes, list each such corporation or firm by name and address, specify its relationship to the Redeveloper, and identify the officers and directors or trustees common to the Redeveloper and such other corporation or firm.

Tofias Corporate Real Estate Services Harborview Trust
Julius Tofias & Co., Inc.
Medfield Industrial Park
Reservoir Place Realty Trust

4. a. The financial condition of the Redeveloper, as of _____, 19____, is as reflected in the attached financial statement.

(NOTE: Attach to this statement a certified financial statement showing the assets and the liabilities, including contingent liabilities, fully itemized in accordance with accepted accounting standards and based on a proper audit. If the date of the certified financial statement precedes the date of this submission by more than six months, also attach an interim balance sheet not more than 60 days old.)

Available upon request

- b. Name and address of auditor or public accountant who performed the audit on which said financial statement is based:

CPA - Keith & Mareb

555 Pleasant Street, Brockton, Massachusetts 02401

5. If funds for the development of the land are to be obtained from sources other than the Redeveloper's own funds, a statement of the Redeveloper's plan for financing the acquisition and development of the land:

Institutional
Bank
Individual Investors

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(9-67)

6. Sources and amount of cash available to Redeveloper to meet equity requirements of the proposed undertaking:

a. In banks:

NAME, ADDRESS, AND ZIP CODE OF BANK

AMOUNT
\$

Private financial matters concerning Arnold B. Tofias and Donald Tofias are available upon request.

b. By loans from affiliated or associated corporations or firms:

NAME, ADDRESS, AND ZIP CODE OF SOURCE

AMOUNT
\$

c. By sale of readily salable assets:

DESCRIPTION

MARKET VALUE
\$

MORTGAGES OR LENS
\$

7. Names and addresses of bank references:

The First National Bank of Boston, 100 Federal St., Boston, MA 02110
John Ahearn, Vice President

8. a. Has the Redeveloper or (if any) the parent corporation, or any subsidiary or affiliated corporation of the Redeveloper or said parent corporation, or any of the Redeveloper's officers or principal members, shareholders or investors, or other interested parties (as listed in the responses to Items 5, 6, and 7 of the Redeveloper's Statement for Public Disclosure and referred to herein as "principals of the Redeveloper") been adjudged bankrupt, either voluntary or involuntary, within the past 10 years? ☐ YES ☒ NO

If Yes, give date, place, and under what name.

- b. Has the Redeveloper or anyone referred to above as "principals of the Redeveloper" been indicted for or convicted of any felony within the past 10 years? ☐ YES ☒ NO

If Yes, give for each case (1) date, (2) charge, (3) place, (4) Court, and (5) action taken. Attach any explanation deemed necessary.

9. a. Undertakings, comparable to the proposed redevelopment work, which have been completed by the Redeveloper or any of the principals of the Redeveloper, including identification and brief description of each project and date of completion:

Reservoir Place, Waltham, Massachusetts
16-20 Water Street, Plymouth, Massachusetts
Straw Hat Square/Medfield Industrial Park, Medfield, Massachusetts
Shovel Shop Square, North Easton, Massachusetts
Oak Hill Way, Brockton, Massachusetts

- b. If the Redeveloper or any of the principals of the Redeveloper has ever been an employee, in a supervisory capacity, for construction contractor or builder on undertakings comparable to the proposed redevelopment work, name of such employee, name and address of employer, title of position, and brief description of work:

None

10. Other federally aided urban renewal projects under Title I of the Housing Act of 1949, as amended, in which the Redeveloper or any of the principals of the Redeveloper is or has been the redeveloper, or a stockholder, officer, director or trustee, or partner of such a redeveloper:

No

11. If the Redeveloper or a parent corporation, a subsidiary, an affiliate, or a principal of the Redeveloper is to participate in the development of the land as a construction contractor or builder:

- a. Name and address of such contractor or builder:

Vappi & Company, Cambridge, Massachusetts

- b. Has such contractor or builder within the last 10 years ever failed to qualify as a responsible bidder, refused to enter into a contract after an award has been made, or failed to complete a construction or development contract?

☐ YES ☒ NO

If Yes, explain:

- c. Total amount of construction or development work performed by such contractor or builder during the last three years: \$ _____.

General description of such work:

- d. Construction contracts or developments now being performed by such contractor or builder:

IDENTIFICATION OF
CONTRACT OR DEVELOPMENT

LOCATION

AMOUNT
\$

DATE TO BE
COMPLETED

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(9-69)

e. Outstanding construction-contract bids of such contractor or builder:

AWARDING AGENCY

AMOUNT

DATE OPENED

3

12. Brief statement respecting equipment, experience, financial capacity, and other resources available to such contractor or builder for the performance of the work involved in the redevelopment of the land, specifying particularly the qualifications of the personnel, the nature of the equipment, and the general experience of the contractor:

13. a. Does any member of the governing body of the Local Public Agency to which the accompanying bid or proposal is being made or any officer or employee of the Local Public Agency who exercises any functions or responsibilities in connection with the carrying out of the project under which the land covered by the Redeveloper's proposal is being made available, have any direct or indirect personal interest in the Redeveloper or in the redevelopment or rehabilitation of the property upon the basis of such proposal? ☐ YES ☐ NO

If Yes, explain.

b. Does any member of the governing body of the locality in which the Urban Renewal Area is situated or any other public official of the locality, who exercises any functions or responsibilities in the review or approval of the carrying out of the project under which the land covered by the Redeveloper's proposal is being made available, have any direct or indirect personal interest in the Redeveloper or in the redevelopment or rehabilitation of the property upon the basis of such proposal? ☐ YES ☐ NO

If Yes, explain.

14. Statements and other evidence of the Redeveloper's qualifications and financial responsibility (other than the financial statements referred to in Item 4a) are attached hereto and hereby made a part hereof as follows:

CERTIFICATION

I, Donna T. F. N. S. partner Hannover Associates
certify that this Redeveloper's Statement of Qualifications and Financial Responsibility and the attached evidence of the Redeveloper's qualifications and financial responsibility, including financial statements, are true and correct to the best of my (our) knowledge and belief.²

Dated: _____

Signature

Title

Address and ZIP Code

Dated: 8/31/82

Donna T. F. N. S.
Signature

general partner
Title

PO Box 420 North Easton MA.
Address and ZIP Code

02356

¹ If the Redeveloper is a corporation, this statement should be signed by the President and Secretary of the corporation; if an individual, by such individual; if a partnership, by one of the partners; if an entity not having a president and secretary, by one of its chief officers having knowledge of the financial status and qualifications of the Redeveloper.

² Penalty for False Certification: Section 1001, Title 18, of the U.S. Code, provides a fine of not more than \$10,000 or imprisonment of not more than five years, or both, for knowingly and willfully making or using any false writing or document, knowing the same to contain any false, fictitious or fraudulent statement or entry in a matter within the jurisdiction of any Department

Fowler, Goedecke, Ellis & O'Connor

Incorporated

One Liberty Square
Boston, Massachusetts 02109
(617) 542-2530

August 31, 1982

Mr. Donald Tofias, President
Tofias Corporate Real Estate Services
Shovel Shop Square
Post Office Box 420
North Easton, MA 02356

Dear Donald:

I have received your preliminary plans for a mixed use project on the Waterfront and thought they were most imaginative. We think that the project is imminently financeable and look forward to working with you on it.

We have arranged financing for a number of buildings in Boston including two projects in the immediate vicinity, The Long Wharf Marriott and Russia Wharf. We are now in the process of finalizing financing on another mixed use development in Cambridge, Kennedy Square, and are well informed about the financing markets.

As you know, the Lenders are extremely volatile and it is impossible to predict either the availability or cost of credit when this project will be ready for financing. However, I think that the combination of location, concept, and development team will secure a loan on the best available terms.

Very truly yours,



William J. O'Connor

WJO/mpb

JULIUS TOFIAS & COMPANY, INC.
SHOVEL SHOP SQUARE
NORTH EASTON, MASSACHUSETTS

Brokerage Division

Development Division

Equity Ventures
Project Coordination
Property Management

Appraisal & Consulting Division

TOFIAS CORPORATE REAL ESTATE SERVICES

Julius Tofias & Company, Inc. was founded in 1913 as a manufacturing company on Summer Street in Boston, Massachusetts.

For over 40 years, first in Boston and later in suburban Medfield, Massachusetts, the Company produced ladies' millinery. In 1956 the Company shifted its emphasis from manufacturing into industrial real estate. The original Medfield manufacturing buildings were recycled into a light industrial park. Branching out from Medfield, the Company began a series of other industrial developments, both for its own account and acting as advisors to corporate users. Industrial development broadened into industrial brokerage assignments around greater Boston during the rapid suburbanization of the 1950's and 1960's.

With almost 70 years of business and real estate experience, the Tofias Company is a full service industrial and commercial real estate firm offering the specialized services of appraisal, brokerage, consulting, development, financing, project coordination, and property management. Many of our earliest prospects are now our most valued clients and tenants. The professional approach to real estate problems has resulted in the steady stream of continued business. Tofias & Company is a privately-owned firm spanning three generations. The Company is small enough to handle routine real estate problems and large enough to solve complex real estate situations. The team approach is utilized on every project, thereby benefiting the client with our extensive experience.

Most real estate problems can be solved by applying the modern techniques of the industrial and commercial real estate specialities. Other situations are solved by combining some, or all, of these specialities. The members of our Firm are well trained with solid real estate experience and many hours of professional real estate courses. The Company provides corporate real estate services to both large and small concerns and, in some cases, acts as the client company's full service real estate department.

Tofias Corporate Real Estate Services is an umbrella encompassing all of our real estate activities. Julius Tofias & Company, Inc. is our primary operating company.

BROKERAGE DIVISION

For over 25 years the firm has been acting for buyers, sellers, lessees, and lessors in the sale and leasing of industrial and commercial property. When acting on behalf of companies which desire to sell or lease real estate, we utilize the exclusive agency agreement. The exclusive agency agreement allows us to devote our full corporate energies to the marketing of your land and buildings. As your exclusive agents, we assume all costs of promotion, advertising, brochures, and signage. The commission is paid when the deal is consummated. The burden is on us, as your broker, to sell or lease your property as quickly and as profitably as possible. The Company and its principals are licensed to sell and lease real estate in Massachusetts, Rhode Island, New Hampshire, Connecticut, and New York.

In connection with our memberships in the Society of Industrial Realtors, we are in constant contact with 1,400 individual brokers throughout the Country who offer similar services in industrial and commercial real estate. A member of the Society of Industrial Realtors must show evidence of at least 8 years' experience in the industrial real estate brokerage field.

We concentrate our marketing efforts on a limited number of properties rather than trying to sell everything that is currently available. This concentrated approach over the years has proven the fastest route to an advantageous sale or lease. Proof to our success is the fact that a large part of our new business each year is with former clients. We also sell and lease property for other real estate developers. The Brokerage Division markets all Tofias developments.

We represent a limited number of companies looking to expand or relocate into a particular size, type, or location of building. We are deeply committed to the adaptive re-use of existing buildings as an alternative to new construction and, if advisable, will spend considerable time searching out existing possibilities before recommending a more costly new facility. Our extensive experience in every kind of industrial and commercial real estate transaction assures you, the corporate client, that the best possible sale or lease will be negotiated in an impartial, businesslike manner. Commissions are based on a percentage of the sale price or aggregate rentals.

DEVELOPMENT DIVISION
EQUITY VENTURES

In the beginning, we started as developers by recycling a large mill complex purchased in 1930 into a multi-tenant light industrial park. We still own and manage our first park after 50 years of development. Our commitment is to long-term investments. Tofias developments are carefully planned, constructed, and managed to insure long-term profitability. Recent projects include:

Shovel Shop Square - North Easton, Massachusetts, which is the adaptive re-use of a complex of stone mill buildings originally built in 1852 by the Ames Shovel Company. This property has been recycled into an office and light industrial park. It also serves as our corporate headquarters.

Cranberry World - 1620 Water Street, Plymouth, Massachusetts Ocean Spray Cranberries, Inc. moved into a former shellfish factory, which we converted into their corporate headquarters - a combination of recycled and new construction.

Straw Hat Square - Medfield Industrial Park is a campus-style complex of office, industrial and research buildings leased to Corning Glass Works' Medical Products Division.

Reservoir Place - Trapelo Road @ Route 128, Waltham, Massachusetts is a modern 164,000 square foot executive office building.

We begin all of our projects with a feasibility study, which carefully details land acquisition, zoning, planning, layout, design, construction costs, financing, construction supervision, completion, marketing, and management. We conservatively manage our existing developments in order to provide for long-term profitable income properties.

The development process utilized for Tofias properties is available to corporate or institutional clients within our Project Coordination Department.

DEVELOPMENT DIVISION
PROJECT COORDINATION

Project coordination draws upon all of our real estate talents and is directed towards the creation of a new development for a corporate or institutional client. In the past we have planned or built office buildings, warehouses, factories, medical buildings, and museums within our Project Coordination Department. Exerting the same kind of effort for your project as if it were our own, we can plan, layout, supervise and complete a project quicker and at a lower cost than the typical arrangement of client - architect - contractor. When a company hires the Tofias Project Coordination team, they are hiring day-to-day supervision of the entire project and freeing up valuable executive time for ongoing corporate affairs.

We admit knowing very little about the electronics or shoe industry but are expert at providing those and other industries with quality working environments. The program is a seven step process:

1. PLANNING: We talk with you and your people to determine your current and future space needs.
2. LAYOUT AND DESIGN: We plan your new facility from the inside out with concern for the flow of both product and personnel and careful attention to current and future energy requirements.
3. PRICING: We arrange to join an engineer - architect with a general contractor. The designer and the builder, using our plan, arrive at realistic prices under our supervision.
4. FINANCING: We put together a financial program that is best suited for you and your organization.
5. PERMITS: We follow through with the project by obtaining all necessary governmental approvals - local, state and federal - that may be needed for your new facility.
6. SUPERVISION: We oversee the general contractor by approving all changes and payments and visiting the site on a regular basis. Costly delays are avoided.
7. COMPLETION: We make sure all the little details at the end are taken care of - relocation coordination, color selection, furniture placement, landscaping, cleaning management and maintenance schedules for mechanical equipment.

We provide new facilities prepared to your specifications. Our fee is based upon a percentage of the total cost of the project.

DEVELOPMENT DIVISION
PROPERTY MANAGEMENT

Property management draws on both science and the humanities. Buildings that we own ourselves and properties we manage for others are managed within a strict budget. With space rented and rents fixed at a certain level, expenses must be monitored on a continual basis. Contracts are negotiated for various services -- cleaning, snowplowing, equipment maintenance, heating, air conditioning and landscaping. Energy conservation is carefully watched and areas of waste are immediately remedied. That's the scientific end of it.

The human end of it is careful attention to the personal wants and desires of our tenants. The psychology of keeping tenants happy is very important to us. A congenial and comfortable working environment is an essential element in the success and profitability of our tenants.

Our management activities are limited to commercial, industrial and medical buildings. With membership in the Institute of Real Estate Management, we are in touch with other C.P.M.'s (Certified Property Managers) on a national basis in order to keep up with the changes in the property management field. Each property is run as a separate entity. Monthly and yearly reports on income and expenses are continually monitored. Our management fee is based on a percentage of the gross income.

APPRAISAL & CONSULTING DIVISION

APPRAISAL

Acting as a fee appraiser, the Company will write a full narrative appraisal to determine the fair market value and highest and best use of a subject property. Our experience as brokers and owners of industrial and commercial property makes us uniquely qualified to render opinions of value for individuals, banks, corporations, lawyers, accountants, and government agencies. We utilize the three accepted approaches to values: cost, income, and market data.

Appraisal assignments in the past have taken us throughout the northeastern United States. Being actively involved in our market area as brokers and developers, we are intimately familiar with the current market conditions, costs, and values.

Our appraisal reports estimate the fair market value in an objective and unbiased manner. Appraisals are used to set an asking price for sale or lease, inheritance value, condemnation proceedings, and real estate tax assessment and abatement assignments. Over the past 25 years we have evaluated millions of dollars worth of property for a wide variety of clients including banks, insurance companies, doctors, lawyers, corporations, municipalities and private parties. Our work in many cases begins with an appraisal and leads to another assignment in brokerage, development or management. Appraisal fees are based on our per diem charges of time spent on the report, not on the property's estimated value.

CONSULTING

Many real estate problems require neither an opinion of value nor a new location but an innovative approach to solve an existing complex situation. Utilizing business management techniques, we begin by working with the client to define the problem. The work will continue by analyzing all possible alternatives before a written report is finally drawn up outlining the range of solutions. Once the solution to the problem is found, Tofias can implement a program that may call on our specialties of brokerage, development, financing or management. If the solution is outside our expertise, we stand ready to locate and hire the expertise required and supervise that outside expertise in order to get the desired results.

Many small and medium sized companies have utilized our real estate consulting services for many years. Firms that are not large enough to have a real estate or facility planning department hire Tofias as that department to work on specific projects and problems. Specialized problems of zoning changes, tax abatement, condemnation, land assembly, conversion, adaptive re-use, and subdivision are handled within the consulting department on a per diem fee basis.

REFERENCES

FINANCIAL

John F. Ahearn, Vice President
Real Estate Department
The First National Bank of Boston
100 Federal Street
Boston, Massachusetts 02110
617-434-2352

LEGAL

M. Gordon Ehrlich, Esquire
Bingham, Dana & Gould
100 Federal Street
Boston, Massachusetts 02110
617-357-9300

ACCOUNTING

Mr. Peter Mareb, CPA
Keith & Mareb
555 Pleasant Street
Brockton, Massachusetts 02401
617-583-2040

MEMBERSHIPS

Greater Brockton Board of Realtors
Greater Boston Board of Realtors (G.B.R.E.B.)
Massachusetts Association of Realtors (M.A.R.)
National Association of Realtors (N.A.R.)
Society of Industrial Realtors (S.I.R.)
Institute of Real Estate Management (I.R.E.M.)
Realtors National Marketing Institute (R.N.M.I.)
International Real Estate Federation

SERVICE CLUBS

Brockton Rotary
Brockton Kiwanis Club

CIVIC

Old Colony Planning Council
Brockton Regional Economic Development Corporation
Massachusetts Department of Commerce & Development - Industrial
Real Estate Advisory Committee
Old Colony United Way
Goddard Memorial Hospital, Stoughton, Massachusetts.
South Shore Chamber of Commerce
Industrial Real Estate Committee

RECENT CLIENTS & TENANTS (Partial list)

INSURANCE

Aetna Life & Casualty Company
Liberty Mutual Insurance Company

INDUSTRIAL

Advanced Instruments, Inc.
Apex Sales Company, Inc.
Arp Instruments
Atco Wire & Cable Company
Bachman Foods
Bay State Gas Company
Becton-Dickinson
Boston Gear
Boyden Plastics
Broadcast Music, Inc.
Cape Dory Yachts
Chapman Manufacturing Company
Corning Glass Works
 Medical Products Division
Cott Corporation
Dart & Kraft, Inc.
Dart Industries, Inc.
Decelle, Inc.
Eureka Manufacturing Company
Fernandes Supermarkets
Fine Art Embroidery
Fiske-Med Science, Inc.
Foot-Joy, Inc.
Foxmoor Casuals
Frito-Lay, Inc.
Garland Corporation
General Mills
Green Trade Marketing Services
Howard Johnson's Company
IDT Corporation
Kent Products
Kentron Machine Company
Kiddie Products, Inc.
Knapp King-Size Corporation
L.E. Mason Company
Longyear Foundation
Melville Corporation

INDUSTRIAL

Mooney & Company, Inc.
Morse Shoe Inc.
National Film Company
National Medical Care, Inc.
North Terminal Company
Norwood Sales Company, Inc.
Ocean Spray Cranberries, Inc.
Peabody N.E., Inc.
Rath Packing Company
RREEF Corporation
Reed & Barton
Rennie Curtain Company
Revere Copper & Brass, Inc.
Robertson Factories
Serta Mattress Company
Swissair Nestle Hotels, Ltd.
Talbots, Inc.
Thom McAn Shoe Company
Towle Silversmiths
Trans National Travel, Inc.
U.S. Repeating Arms Company
Walworth Company
Warner-Amex Cable Communications
Ziff-Davis Publishing Company

DEVELOPERS

Boston Properties
Cabot, Cabot & Forbes
CEMP Investments Ltd.
Cordage Park Company
Fred F. French Investing Company
Kaufman Management Company
Newmark & Company, Inc.
Nordblom Company
The Flatley Company

GOVERNMENT AGENCIES

Easton Conservation Commission
N. Attleboro Ind. Dev. Commission
Taunton Ind. Dev. Commission

ARNOLD B. TOFIAS, S.I.R., C.P.M.

Treasurer/Chairman Treasurer	Julius Tofias & Company, Inc. Medfield Industrial Park, Inc.
Born	February 2, 1923, Boston, MA
Education	Newton High School Newton, MA Cornell University Ithaca, NY, B.S., 1944 in A.E.M.E. Society of Industrial Realtors Course I and Course II Instructor in Industrial Real Estate Society of Industrial Realtors Industrial Development Research Council
Member:	Greater Brockton Board of Realtors Greater Boston Real Estate Board Massachusetts Association of Realtors Commercial and Investment Division Institute of Real Estate Management Certified Property Manager International Real Estate Federation Society of Industrial Realtors (S.I.R.) Chairman-Admissions Committee, 1976 Vice Chairman-Finance Committee, 1981 President, New England Chapter
Corporator	Brockton Savings Bank, Brockton, MA

JULIUS TOFIAS & COMPANY, INC., was established in 1913, incorporated in 1930, and since 1956 has specialized in providing corporate real estate services consisting of appraisal, brokerage, consulting, development, financing, project coordination, and property management. The Company is headquartered at Shovel Shop Square in North Easton, Massachusetts.

DONALD TOFIAS, S.I.R.

President Julius Tofias & Company, Inc.
Medfield Industrial Park, Inc.

Born January 4, 1947, Newton, MA

Education Newton South High School
Newton, MA, 1965

Cornell University
Ithaca, NY, A.B., 1969

Society of Industrial Realtors
Course I and Course II

American Institute of Real Estate Appraisers
Course IA and Course IB

Massachusetts Association of Realtors,
Realtors Institute, Courses 1, 2, and 3

Instructor in Industrial Real Estate

Society of Industrial Realtors - Course I

Realtors Institutes - Massachusetts,
Rhode Island, Kentucky

Member: Greater Brockton Board of Realtors
Massachusetts Association of Realtors
Society of Industrial Realtors (S.I.R.)
Member of Board of Directors
Chairman - Public Relations Committee, 1980
Member - Education Committee, 1978 -
President - New England Chapter, 1980
Vice President - New England Chapter, 1979
Secretary-Treasurer - New England Chapter, 1978
Public Relations Chairman, 1977
National Association of Realtors
National Trust for Historic Preservation

Corporator People's Savings Bank, Brockton, MA

JULIUS TOFIAS & COMPANY, INC., was established in 1913, incorporated in 1930, and since 1956 has specialized in providing corporate real estate services consisting of appraisal, brokerage, consulting, development, financing, project coordination, and property management. The Company is headquartered at Shovel Shop Square in North Easton, Massachusetts.

JULIUS TOFIAS & COMPANY, INC.

Shovel Shop Square, Post Office Box 420
North Easton, Massachusetts 02356-0420
(617) 584-0600/Boston 364-5100



Society of Industrial Realtors
Active Members

STUDIO
HOTOS
Real Estate Services

Reservoir Place

Route 128/Waltham, Massachusetts

The office of the future is here now.

The office of the future is here now

Reservoir Place

Reservoir Place is a modern, 164,000 square foot, three-level, office facility situated upon an eleven acre site fronting on Route 128 at Trapelo Road. The facade is a combination of a clear anodized aluminum skin and solar gray, insulated glass, ribbon windows. Strategically located in Waltham at the mid-point of the Route 128 high technology executive office belt between Wellesley and Burlington, this facility is accessible and visible.

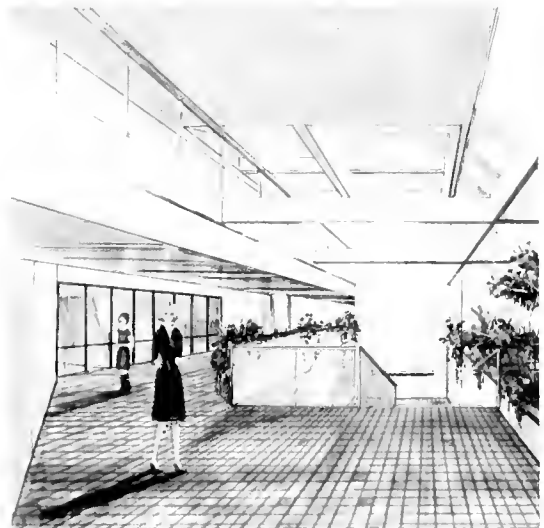



Reservoir Place is located on a promontory above Route 128. Commanding views of the surrounding rolling hills of Middlesex County and the Hobbs Brook Basin are available in all directions. The landscaped site accommodates the building and parking for 500 cars.

Reservoir Place is a three-level office building of clear aluminum and reflective glass. The attractive entrances welcome building occupants to wide open interior spaces. Maximum natural lighting is provided by continuous strip windows and skylights.

Reservoir Place has provided tenant building standards of superior quality. In designing the building, emphasis has been placed on maximum space utilization and energy conservation. Electrical power is available for any computer and communication system requirement.

Reservoir Place ...the office of the future is here now.





Progress Report #4
August 1982

It's a bird,
it's a plane,
It's a super building,
It's the office
of the future
and it's here now.
Suburban Boston's
finest executive
office building is
within one month
of completion.
Occupancy can
be arranged
early this fall.
164,000 square feet
for lease. Call for a
personal tour.

The Office of the Future is here now™

Reservoir Place™

Route 128 / Waltham, Massachusetts

Brokerage & Development Services Provided By:

 **TOFIAS**
SINCE 1913
Corporate Real Estate Services

Shovel Shop Square / North Easton, Massachusetts 02356

(617) 584-0600

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The Office of the Future is here now™

Reservoir Place™

Route 128 / Waltham, Massachusetts

164,000 square feet of prime executive office space for lease
Will divide 14,000 up to 164,000 square feet.

Equity participation available for entire building tenant

Progress Report #2 - June 1, 1982



The aluminum facade is now being installed. This is a picture of what Reservoir Place will look like when completed in September of 1982.

Brokerage & Development Services Provided By:

TOFIAS
SINCE 1913
Corporate Real Estate Services

Shovel Shop Square/North Easton, Massachusetts 02356

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© 1982 **Reservoir Place Realty Trust**

The Office of the Future is here now™

Reservoir Place™

Route 128 / Waltham, Massachusetts

164,000 square feet of prime executive office space for lease

Progress Report #1 - May 1, 1982



The exposed steel frame shown above is Reservoir Place as of April 25, 1982. The HVAC ductwork is being installed throughout the building. The skylight and atrium openings have been cut awaiting delivery of the skydomes. Many of the subtrades are on site and working under the supervision of our general contractor, Vappi & Company, Inc. of Cambridge. The exterior sub-wall system is being fabricated and will be installed beginning May 17th. The Alucobond exterior aluminum panels and the insulated solar gray glass windows will follow, with exterior completion due June 30th. The interior work will follow on schedule; occupancy will be available on September 1, 1982 as planned.

Brokerage & Development Services Provided By:

TOFIAS
Corporate Real Estate Services

Shovel Shop Square/North Easton, Massachusetts 02356

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MOORE - HÉDER

Architects and Urban Designers

Moore-Heder is a partnership that was created in 1973. It brought together the extensive previous experience of the two principals and in brief summary, provides the following services:

- o Consulting on urban design and transportation planning for federal, state and local government agencies
- o Standard architectural services for both public and private clients
- o Design and construction supervision of public space improvements
- o Master planning, site selection, and assessment of building resources for public agencies, institutions, and private clients
- o Feasibility studies for housing, commercial, and recreational developments

The partnership focuses on design and consulting services for the formation of new programs for the public environment (public transportation, pedestrianization, downtown revitalization, neighborhood planning and zoning) and for new institutional structures (educations, health and community facilities). In addition, the partnership has extensive experience in the recycling and conversion of buildings and the adaption of older structures (both building and city scale) for new uses.

In the process of providing these services Moore-Heder has developed a variety of techniques and skills to effectively work with multiple client entities (public agencies, developers, community groups, various special user groups). Moore-Heder has repeatedly structured creative working teams out of these sometimes diverse interest groups, and utilized their energies for nurturing successful and innovative projects.

The following contains summaries of selected projects by the firm and its principals. Client name, representative, and telephone number are provided for each project to enable prospective clients to make inquiries.

Resumes

ALLEN MOORE, JR.
Principal

EDUCATION

Yale University, B.A., 1956
Yale University, Graduate School of Architecture, B. Arch., 1958

EXPERIENCE

Architectural Office: Moore-Heder Architects, 806 Massachusetts Avenue, Cambridge, MA. Principal: architectural and planning services, 1973 - present

Architectural Office: Rogers-Moore and Associates, Inc., 806 Massachusetts Ave., Cambridge, MA. Director, Vice President and Treasurer, 1969 - 1973

Architectural Office: Homer, Rogers and Moore, Inc., 14 Story Street, Cambridge, MA. Director and Treasurer, 1967 - 1969

Architectural Office: Allen Moore, Jr. and Associates, St. Barthelemy, French West Indies. Founder and Principal in Architectural Firm, 1972 - present

Rome, Italy: Planning and construction technology for low income housing. Study program 1963 - 1964

Collegio Dante Alighieri, Rome, Italy: Italian language study program, 1963 - 1964

Architectural Office: Allen Moore, Jr. and Associates, Federicksted, St. Croix, U.S. Virgin Islands. Founder and Principal in Architectural Firm, 1959 - 1967

AWARDS AND EXHIBITIONS

Gold Medal, 1975 Annual Design Award, Greenwich Arts Council.

"Architectural Record of Award of Excellence for Design," Meadgate Condominiums, "Record Apartment of the Year," 1972.

Exhibition, "Five Cambridge Architects," Jewett Art Center, Wellesley College, Wellesley, Massachusetts, 1969.

ALLEN MOORE, JR.
Principal

PROFESSIONAL ACTIVITIES

Mr. Moore, a Founder and Principal in the firm of Moore-Heder, has twenty-two years experience in all phases of architectural practice as a registered Architect (original registration: U.S. Virgin Islands, 1969). Work includes practice in the West Indies (7 years) and Cambridge, Mass. (15 years). Projects for which Mr. Moore has been directly responsible for planning, design, and on-site construction management vary in scope from an Education Center and Theatre/Gallery/Exhibit complex in Old Sturbridge Village, Mass., a Corporate Headquarters and Visitor Center in Plymouth, Mass., Meadgate Condominiums in Greenwich, Conn., and various rehab and housing projects in New England and the West Indies. Other significant professional activities are as follows:

Consultant to the Department of City and Regional Planning, Harvard University, Spring Workshop 1977.

Faculty Member. New England Conference, First Annual Colloquium on Interpretive Exhibits, Amherst, Mass. Sponsor: the DeCordova Museum, 1977.

Instructor at Harvard Graduate School of Design. Environmental and Design Workshop (collaborative with the Urban Design Department), 1976.

Lowell Preservation Plan. Project Director for the development of the historic and cultural preservation plan for the Lowell National Historic Park and Preservation District, Lowell, Mass., 1980.

Visitor Center Exhibit Design. Design and fabrication of an introductory/interpretive exhibit for a living museum of early New England. Sponsors: National Endowment of the Arts & Humanities Grant and Old Sturbridge Village.

Ocean Spray Visitors Center and Exhibit Design. Design and fabrication of an historical/educational exhibit for the Ocean Spray Cranberry Cooperative, Plymouth, Mass.

Council on the Arts and Humanities, Commonwealth of Massachusetts. Design and fabrication of travelling exhibits for public spaces, 1978.

Architectural Design Principal for the Charles River Museum of Industry, Waltham Mass., the Old Point Allerton Life-Saving Museum, Hull, Mass., and Consultant to the Higgins Armory Museum, Worcester, Mass. 1982 - on-going.

Lajos S. Heder
Principal

Registered Architect:
Massachusetts
Rhode Island
N.C.A.R.B. Certificate

EDUCATION

Harvard College, B.A. 1962
Harvard Graduate School of Design, B. Arch., 1965
M. Arch. in Urban Design, 1967

PROFESSIONAL EXPERIENCE

Moore- Heder Architects. Principal, architectural and planning services.
Primary responsibility for urban design. 1973-present.

Stull Associates, Inc. Architects and Planners. Design Director on
educational buildings, housing and community facilities.
1968-73

Shadrach Woods, Paris, Exhibition Graphics. 1968.

Boston Redevelopment Authority. Downtown area urban design. 1966-67.

The Architects Collaborative, Cambridge, Massachusetts. Designer,
educational buildings. 1965-66.

TEACHING AND RESEARCH

Research Associate , Massachusetts Institute of Technology.
1973-76.

Northern Polytechnic, London, England. Lecturer in Town Planning.
1967-68.

Instructor, Harvard Graduate School of Design in Urban Design and
Architecture. 1966-67.

IBM Fellow at the Harvard Graduate School of Design, research on the
application of mathematical models in architecture. 1964-65.

COMMUNITY ACTIVITIES

Consultant to several Cambridge neighborhood associations and citizen groups (on both a paid and volunteer basis) on community planning and environmental impact issues. 1973-present.

Alewife MBTA Station TASK Force, Member 1976-1979.

AWARDS

Frank Knox Traveling Fellow of Harvard University in Great Britain.

National Endowment for the Arts Design Fellow, 1977-1978.

PUBLICATIONS

Aesthetics in Transportation -- A book of case studies and guidelines for improving the design of and introducing artworks into transportation facilities. Prepared under contract with the U.S. Department of Transportation, Office of the Secretary. Report #DOT-OST-P-20-30, November 1980.

People Movement for Downtown Improvement -- Information brochure prepared with the Institute of Public Administration under contract to US-DOT Urban Mass Transportation Administration, Service and Methods Demonstration. DOT 511, 1977.

Auto Restricted Zone Study -- Demonstration plans for Boston, Burlington, Memphis, Providence and Tucson. US-DOT Urban Mass Transportation Administration, 1977.

Opportunities for Downtown Improvements -- Recent projects in Transportation Urban Design and Downtown Development. Moore-Heder publication, 1977.

Quality of Life Assessment -- Chapter in "Methodology of Social Impact Assessment" by Finsterbusch and Wolf; Dowden, Hutchinson and Ross, Inc., publishers, 1977. With Mark Francis.

The Auto Restricted Zone Program -- December 1976. Article in HUD Challenge Magazine.

Harvard Square Planning Workbook, 1976 -- With Mark Francis and Victor Karen, M.I.T. Laboratory of Architecture and Planning.

Selected Project Illustrations

Architects & Community Planners

806 Massachusetts Ave., Cambridge, Massachusetts 02139, Tel. 491-5660

Ocean Spray Corporate Headquarters

Building and Program Elements: Corporate Headquarters offices for Ocean Spray Cranberries, Inc. and an indoor/outdoor museum describing the cranberry industry. Building includes the adaptive re-use of an abandoned former clam factory and some new construction. The site near the Mayflower and the museum with its visitors' center were selected to draw on the extensive tourist traffic and increase the company's visibility. Besides providing full architectural services through the owner/developer Moore-Heder was retained directly by Ocean Spray to design the museum facilities and exhibits. Following the success of the 40,000 square foot building the architects were retained to design a second phase expansion.

Site: Water Street, Plymouth, Mass. on the harbor waterfront a quarter of a mile from Plymouth Rock and the Mayflower.

Building Systems: Existing building masonry walls and steel framing partially reused, new construction of laminated wood columns, beams and deck, exterior light brick and weathered wood siding. Openable wood casement windows provide part of ventilation requirements. Further major energy savings were achieved by using available well water for cooling.

Construction Completed: 1977

Cost: \$1,400,000

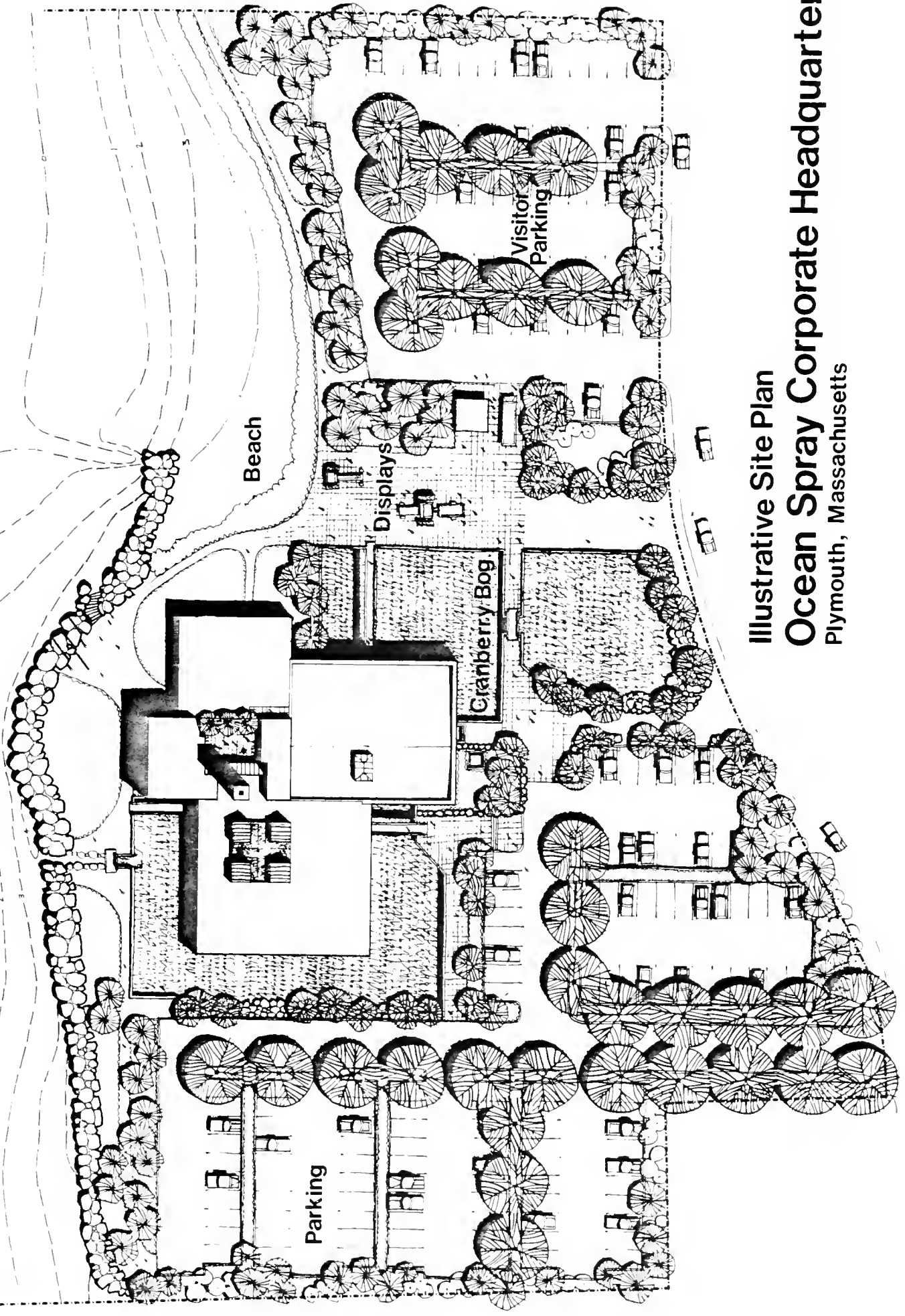
Client: Harborview Trust Inc., owner/developer and Ocean Spray Cranberries, Inc.

Architect: Moore-Heder — principal in charge: Allen Moore, Jr. — consulting principal: Lajos Heder

Reference: Harold Thorkilsen, President, Ocean Spray Cranberries, Inc., 617/747-1000



Plymouth Harbor



Illustrative Site Plan

Ocean Spray Corporate Headquarters

Plymouth, Massachusetts

The ARZ Demonstration Program

THE PROGRAM

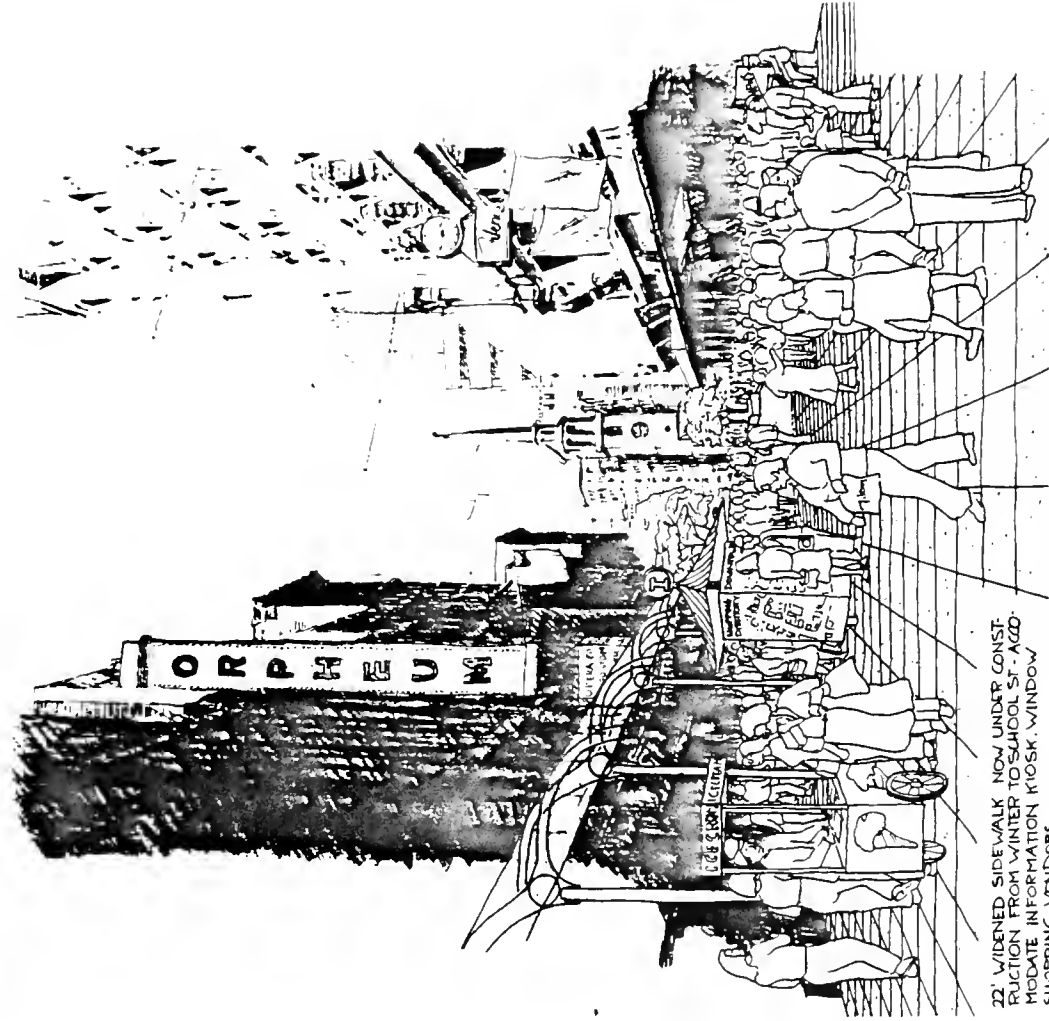
The Auto Restricted Zone (ARZ) studies were sponsored by the U.S. D.O.T. Urban Mass Transportation Administration (UMTA). Extensive analyses, plans and impact evaluations were prepared for these 5 cities by the consultants. Two of the 5 will be awarded UMTA Section 6 Demonstration Grants in 1977 for implementation.

THE PURPOSE OF ARZs

The purpose of the ARZ program is to improve transit operations and the pedestrian environment and to aid the general renewal of downtown areas. The restriction of auto traffic on certain streets was required to this end but auto access to all essential parking and service points was maintained.

THE PLANNING PROCESS

The consultant team performed a general feasibility study, assisted with site selection and then performed detailed analyses and prepared designs for the 5 cities. Circulation components were analyzed and travel demand was modelled by mode and type. A detailed urban ecology analysis of the structures and activity patterns was conducted. The plans were repeatedly reviewed in workshops with city departments, and other community representatives. The impacts of the proposals were evaluated by the consultants. One of the most important effects of these workshops was to bring together traffic engineers with planners, transit operators and businesspeople and to successfully negotiate a new deal for downtown streets. As of February 1977 the studies are completed, the cities are further reviewing the plans, preparing implementation strategies and negotiating with UMTA.



22' WIDENED SIDEWALK NOW UNDER CONSTRUCTION FROM WINTER TO SCHOOL ST. ACCOMMODATE INFORMATION KIOSK, WINDOW SHOPPING, VENDORS

20' WIDE ROADWAY TO BE REPAVED IN "100% CORNER" AREA - ACCOMMODATE FREE FLOW OF SERVICE VEHICLES WHEN PERMITTED AND OF PEDESTRIANS AT ALL TIMES

Proposed

Sketch for Washington Street, Boston ARZ

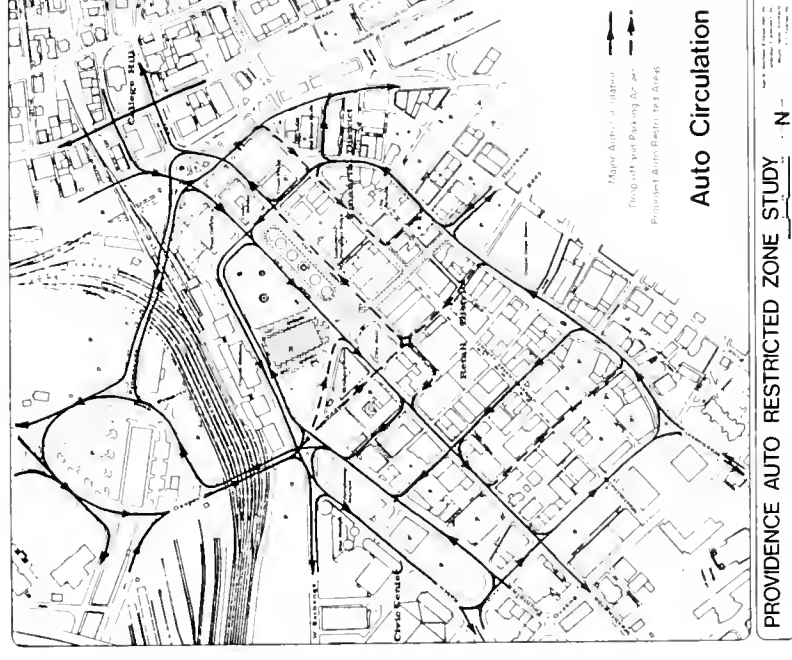
The ARZ Plans

The ARZ plans follow precedents set by many European auto restricted zones and U.S. pedestrian and transit malls. These were adopted and expanded to the treatment of the whole downtown areas in the 5 demonstration cities. Restrictions to auto traffic are consistently balanced by providing alternative routes for auto access and goods delivery, improvements in transit service, improvements in the pedestrian environment, and management programs to generate new business and street activity.

The main components of each demonstration plan are.

- **A revised circulation framework** providing appropriate street space and access patterns for autos, pedestrians, transit buses, special shuttle buses, goods delivery, taxis, and bicycles.
- **Transit operation improvements** including the appropriate combination of routing changes, free fare zones, shuttle services, designs for pedestrian accommodation at bus stops and terminals, and general upgrading of the transit system's image.
- **A phased program of street improvements** designed to use scarce available capital construction funds to make the greatest initial contribution to revitalization and to grow in stages toward an improved street environment covering the whole downtown.

The plans in this section are selected examples from the 5 demonstration designs. In this limited space we can give only a general sense of the intent, scope, and scale of the proposals and some orientation for those familiar with these cities. The full technical reports containing detailed analysis of existing conditions and complete description as well as evaluation of the proposals will be published by the Service and Methods Demonstration Program of US-DOT-UMTA when editing is completed.



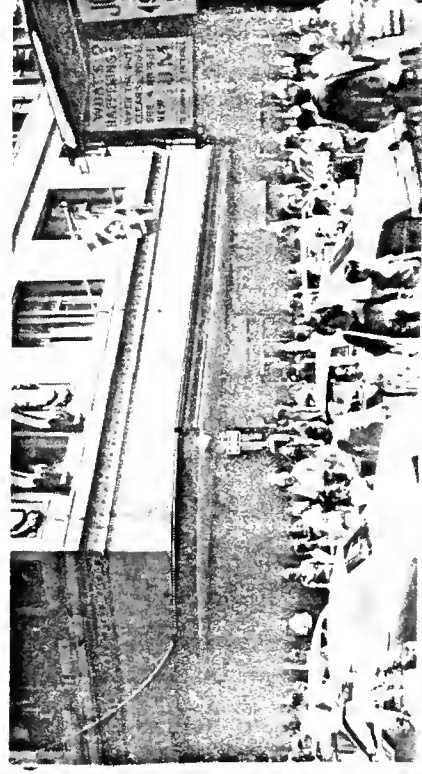
Providence ARZ Auto Circulation Plan

Downtown Crossing Boston, Ma.

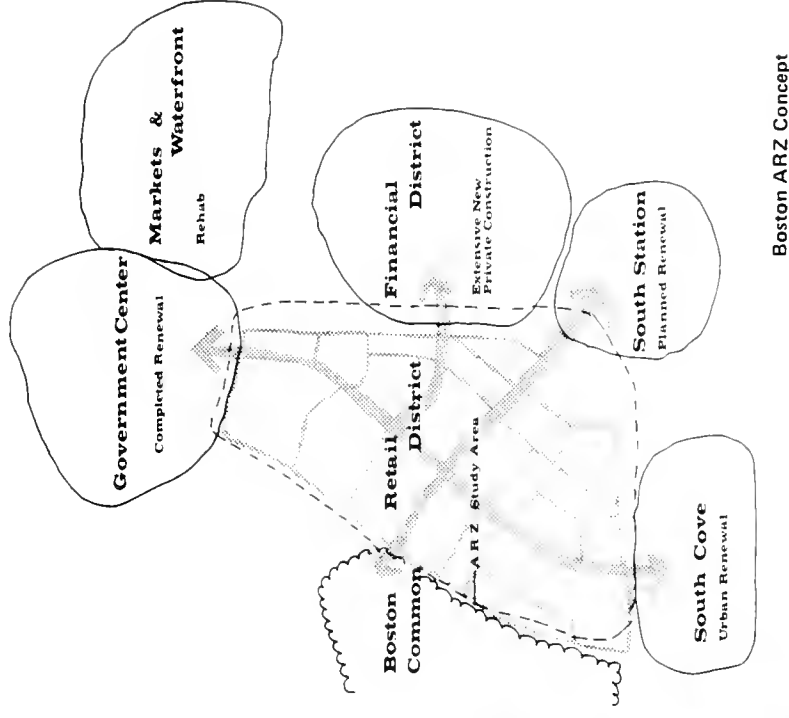
The largest of the 5 cities, Boston has the greatest diversity and congestion. It has the strongest downtown activity base and an extensive rapid transit system. It also has the worst traffic conflicts and few alternative traffic routes.

Key plan elements are:

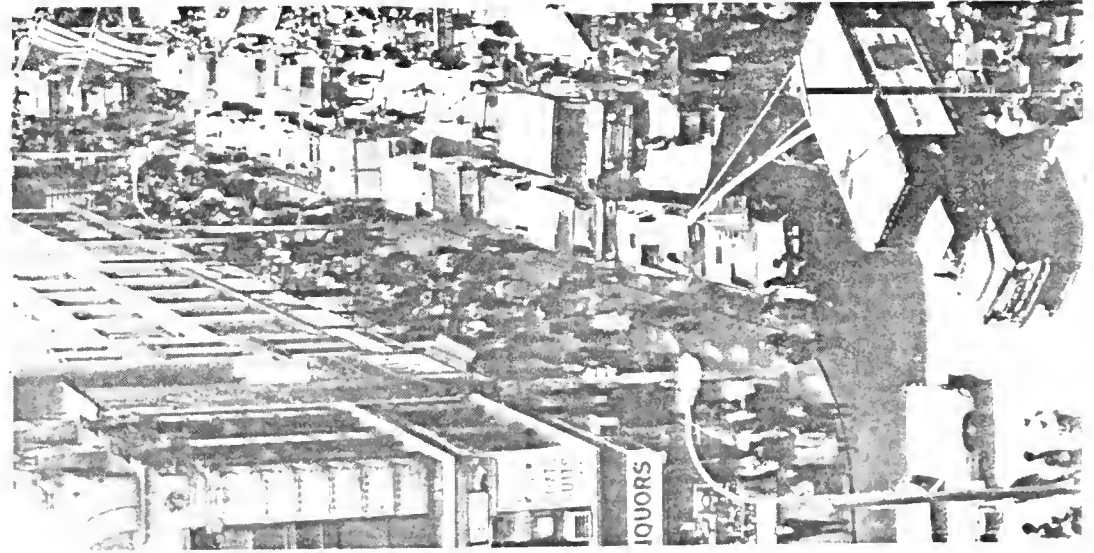
- **A traffic plan that can free major shopping streets** for pedestrians and still provide access to parking and service areas
- **Pedestrian streets and shuttle bus routes** that link active districts now just out of walking distance
- **Exclusive routes** for buses and trucks into downtown
- **Design techniques that support step by step implementation and low cost experimental improvements.**



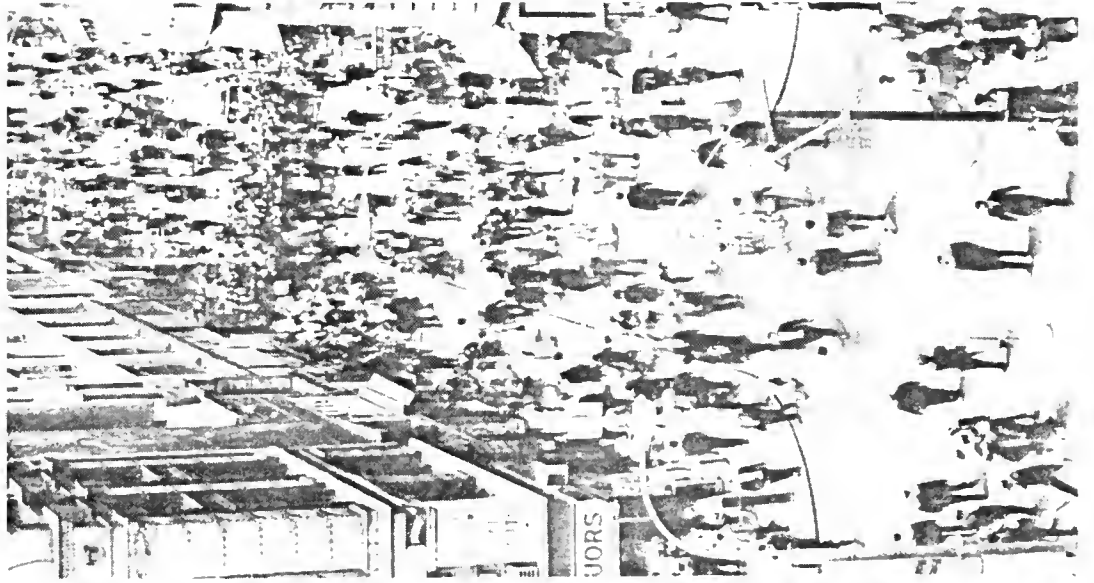
Existing Pedestrian-Auto Conflict at 100% Corner, Boston



Boston ARZ Concept



Nassau Street, New York City, for trucks and cars



Nassau Street, New York City, for People

© Moore-Heder 1977

The ARZ Consultant Team consisted of:

Alan M. Voorhees & Associates, Inc. — Traffic and Parking Planning
Cambridge Systematics, Inc. — Travel Demand Modelling and Transit Planning
Moore-Heder — Concept Planning and Urban Design
A. T. Kearney — Goods Movement

References:

Ronald Fisher Director of Services and Methods Demonstration, U.S. DOT, UMTA, Washington, D.C. (202) 426-4984
Emily Lloyd, Transportation Assistant for the Mayor, Boston, Massachusetts (617) 725-4470
Martha Bailey, Planning Director, City of Providence, Providence, Rhode Island (401) 831-6550
Martin Nizlek, Transportation Planning Administrator, Tucson, Arizona (602) 791-4371
Randy Kamerbeek, City Planning Director, Burlington, Vermont (802) 862-5711
Kerry Roby, Memphis and Shelby County Planning Commission, Memphis, Tennessee (901) 528-2602

Meadgate Condominiums

Building and Program Elements: Fourteen townhouse/condominium units in the central area of a suburban community. The units include winding staircases, freestanding brick fireplaces, bay windows and elevators arranged in two basic plan types. The project has received the gold medal award of the Greenwich Arts Council and an Architectural Record Merit Award.

Site: Greenwich, Connecticut — one and half acres of land in an established urban neighborhood.

Building Systems: Brick bearing walls, wood floor framing, indoor garage and elevator for each building.

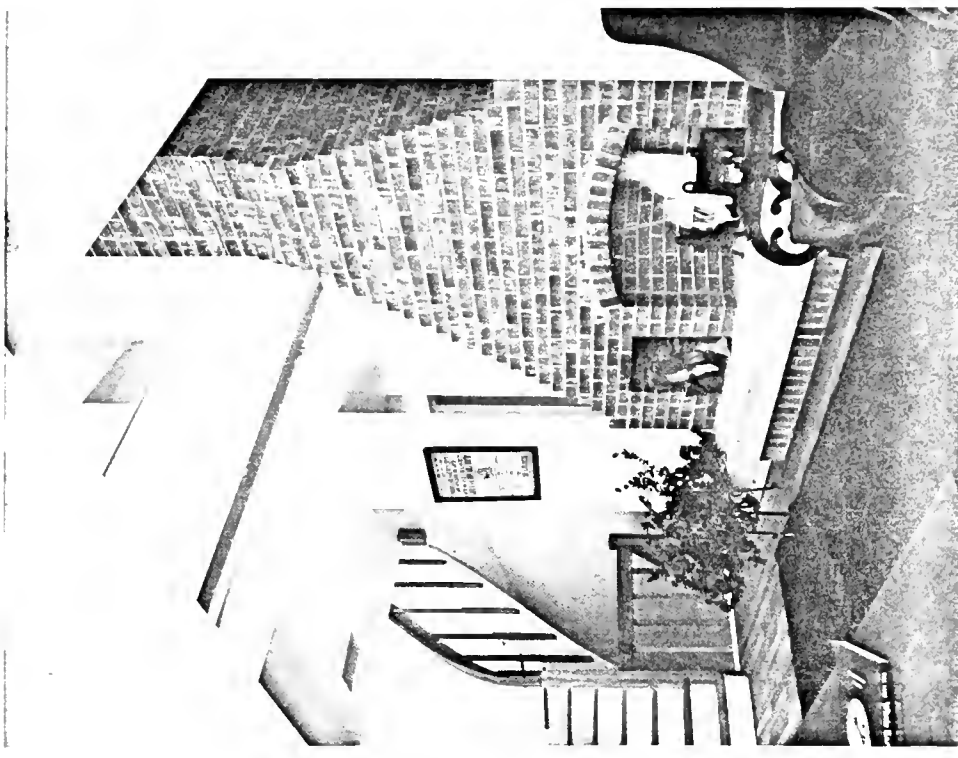
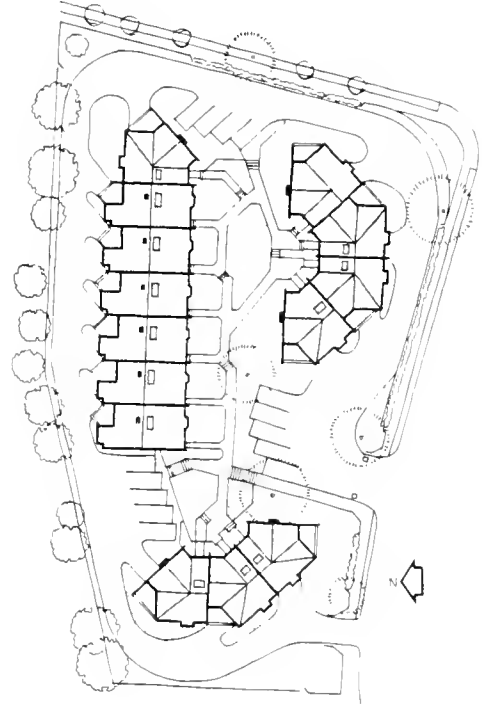
Construction completed: 1972

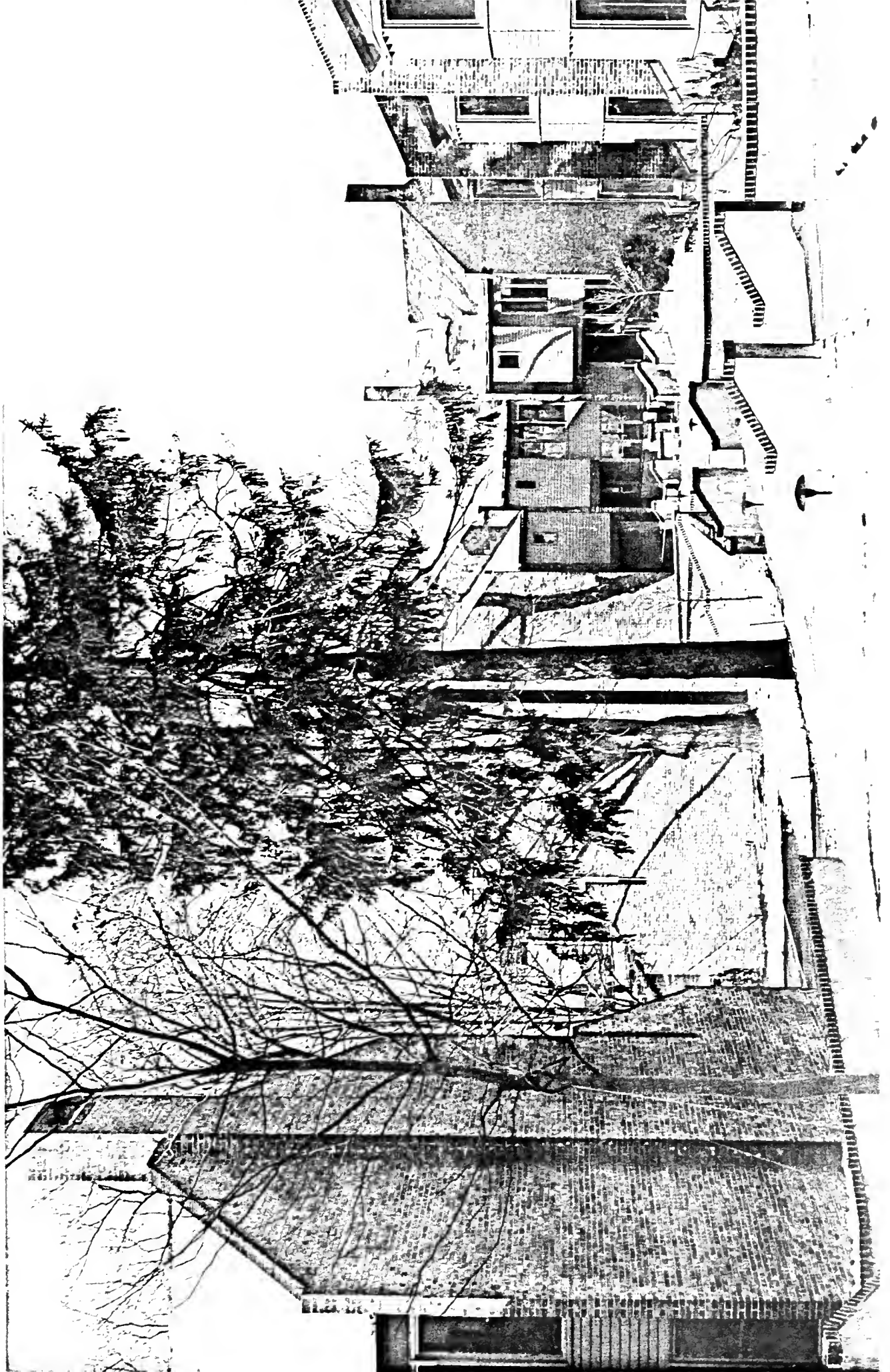
Cost: \$600,000

Client: Peterson Corporation, Greenwich, Connecticut.

Architect: Allen Moore, Jr., Principal in charge for Rogers, Moore and Associates.

Reference: Alexander Peterson, 203/869-8756





Lowell, Mass.

HISTORIC and CULTURAL PRESERVATION PLAN for the LOWELL NATIONAL HISTORIC PARK and PRESERVATION DISTRICT

The Lowell Historic Preservation Commission (LHPC) was established by the U.S. Congress to provide for the preservation, interpretation, development and use of the Lowell National Historic Park and Preservation District. In August 1979, LHPC retained Moore-Héder to prepare a Historic and Cultural Preservation Plan for the staged Federal commitment of \$21 million over a ten year period. The Plan focuses on an immediate action component as well as a long-term implementation strategy that integrates Federal funds with other financial commitments from the State, City, and the Private Sector.

The physical aspects of the Plan include evaluation and design recommendations for specific historic sites and standards for development throughout the District. Transportation plans included fitting in difficult parking demands as well as special trolley and canal barge circulation. Many of these proposals are now being implemented.

The Plan focuses on creating a mutually supportive relationship between the National Park and Downtown Lowell. The Plan was conceived to minimize conflict that may be created by visitor traffic, parking and tourist-oriented development. The visitors, carefully integrated into the downtown patterns, provide an incentive for cultural expression and commercial activity. The resurgent business and cultural life of the city will, in turn, enrich the visitor's experience.

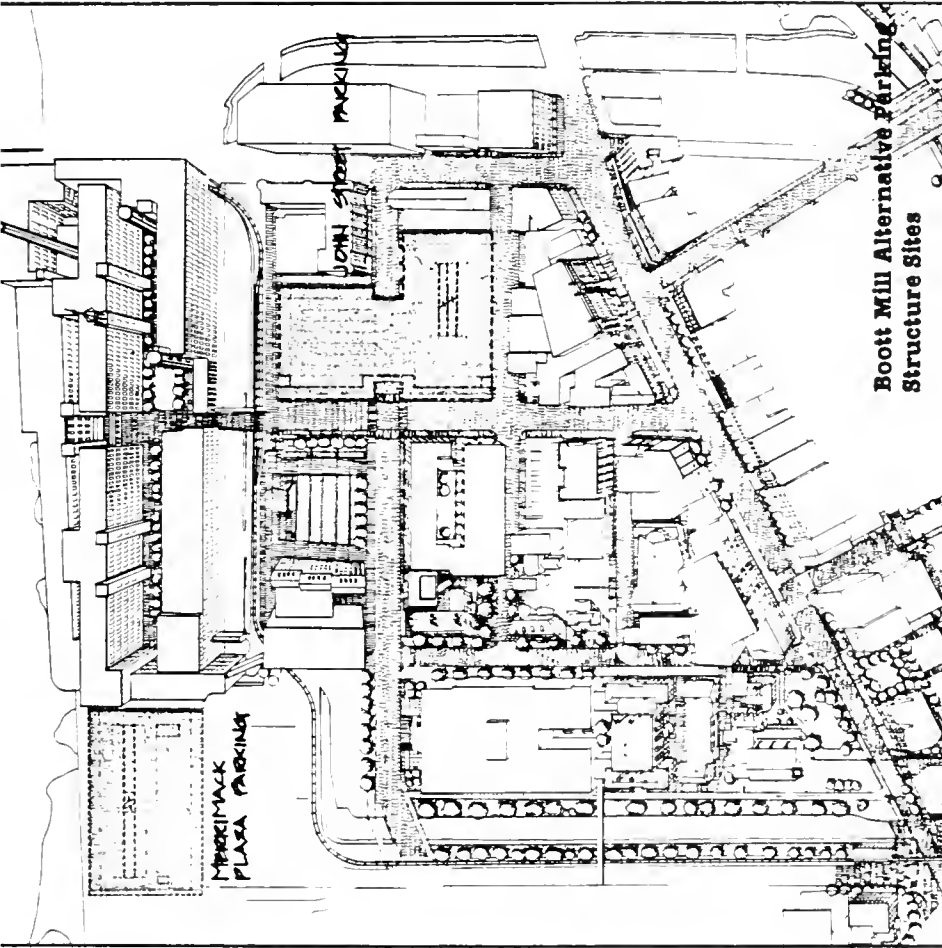
Plan completed: 1980

Client: Lowell Historic Preservation Commission

Prime consultants: The Moore-Héder Team.

Reference: Fred Faust, Executive Director, 617/458-7653





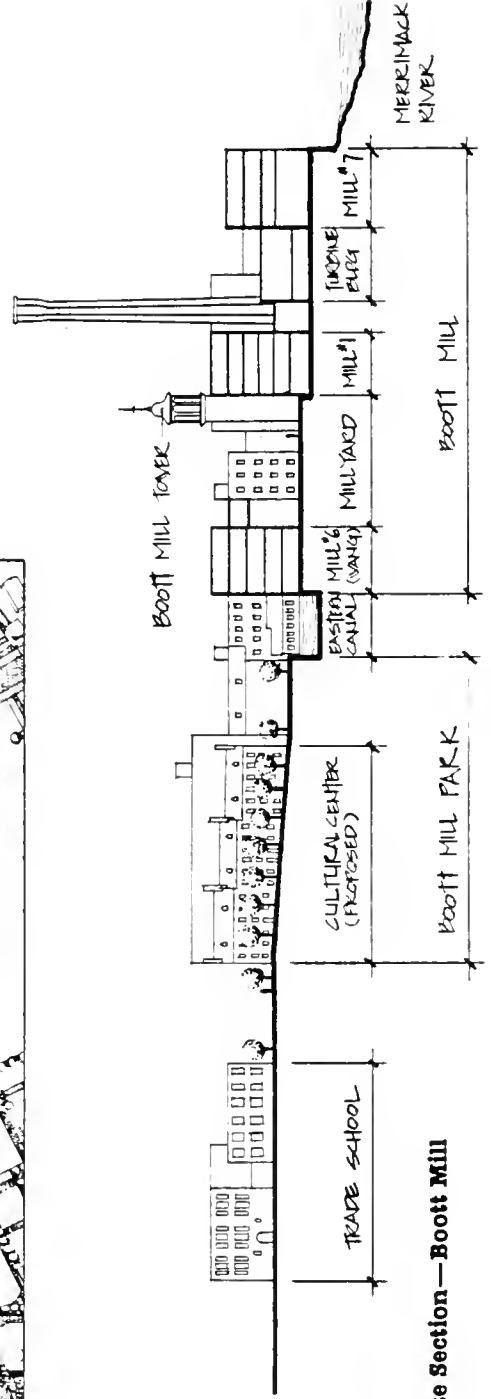
The Boott Mill Area

A great deal of the physical development in the Historic Park and Preservation District is concentrated in this area. Downtown and visitor activities are most intense here. There is a great concentration of significant buildings and important sites.

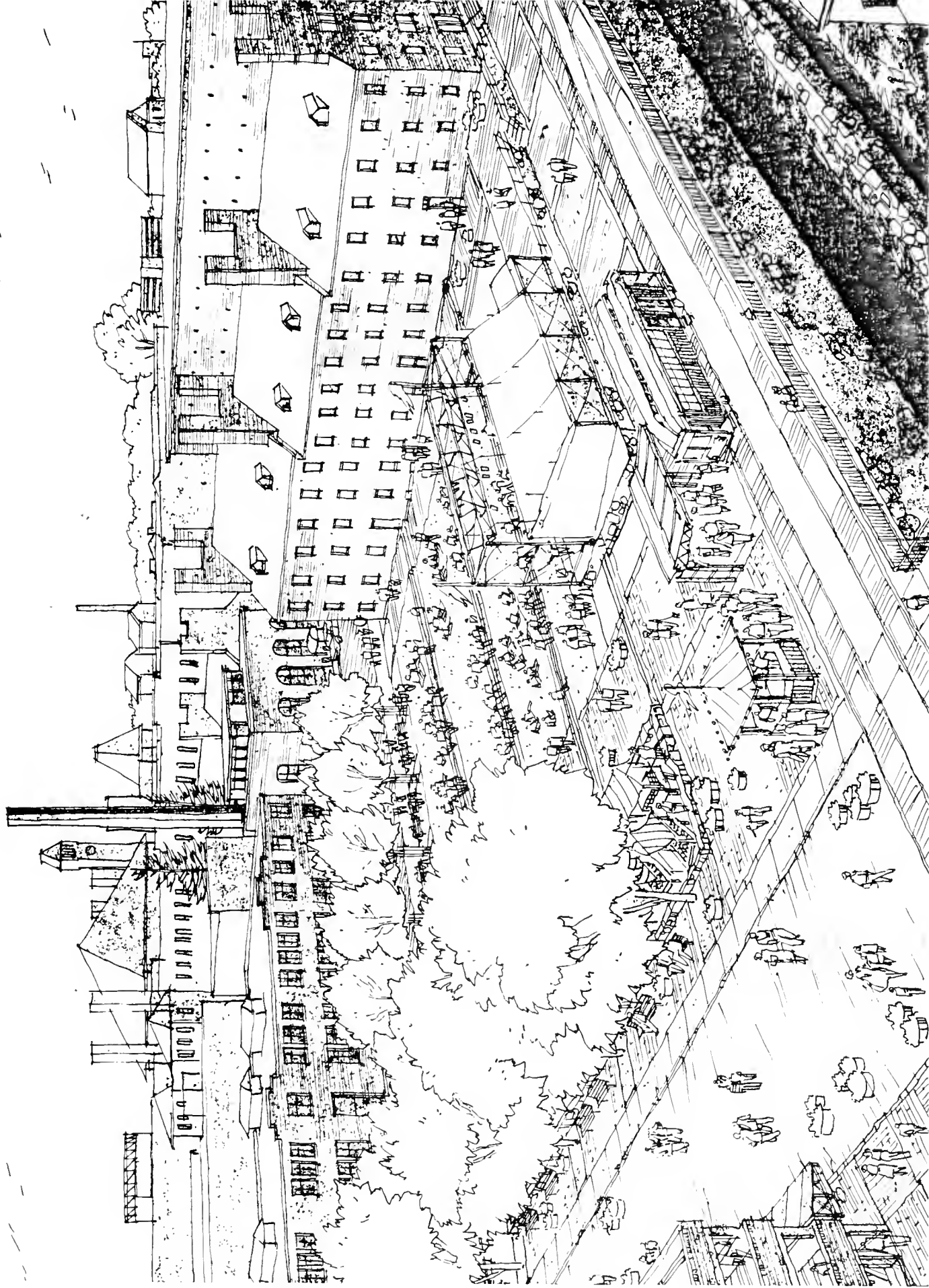
Moore-Héder developed a series of alternatives for urban design, building use, financing and ownership. Different balances of private and public involvement were considered. All alternatives took as their objective the preserving of buildings and the historic urban design fabric and the adding of people, activity and economic strength. A phased program was developed and implementation is now proceeding.

External rehabilitation has been completed on a section of the Boott Mills (Building #6) owned by Wang Laboratories and supported by a grant from the Commission. Moore-Héder were architects for this 85,000 square foot structure.

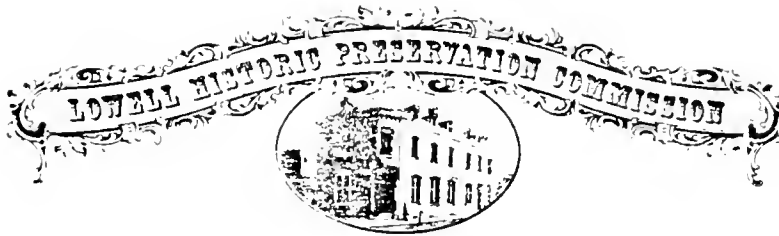
The proposed Boott Mill Park (schematic design by Moore-Héder shown on the next page) is conceived as the center of gravity of historic Lowell and brings together the national visitor and the people of Lowell in an outdoor performance area backdropped by a reconstructed boarding house, the Eastern Canal and the rehabilitated Boott Mills.



Site Section — Boott Mill



Proposed Boott Mill Park



December 18, 1980

To Whom It May Concern,

I am writing to relate to you the important work accomplished by Moore-Heder Architects and Urban Planners in Lowell, Massachusetts.

Allen Moore and Lajos Heder were under contract to the Commission for the past year working on a complex design preservation and development project.

Mr. Moore is an outstanding and practical architect who combines imaginative ideas with economic reality. Mr. Heder's strengths lie in his ability to organize work and execute long term plans. Both Mr. Moore and Mr. Heder also possess the rarely found ability to listen to all sides of an argument and suggest solutions. This is particularly helpful when working with a variety of public and private groups.

Since the Commission had only three full time staff members at the outset of the Moore-Heder effort, the firm was often called upon to provide advice and fill in missing skills.

Based on the Preservation Plan that was developed by the Moore-Heder team and the Commission, there is no doubt that Lowell can look ahead to a unique future. The Commission has already been able to move ahead on many aspects of this action plan.

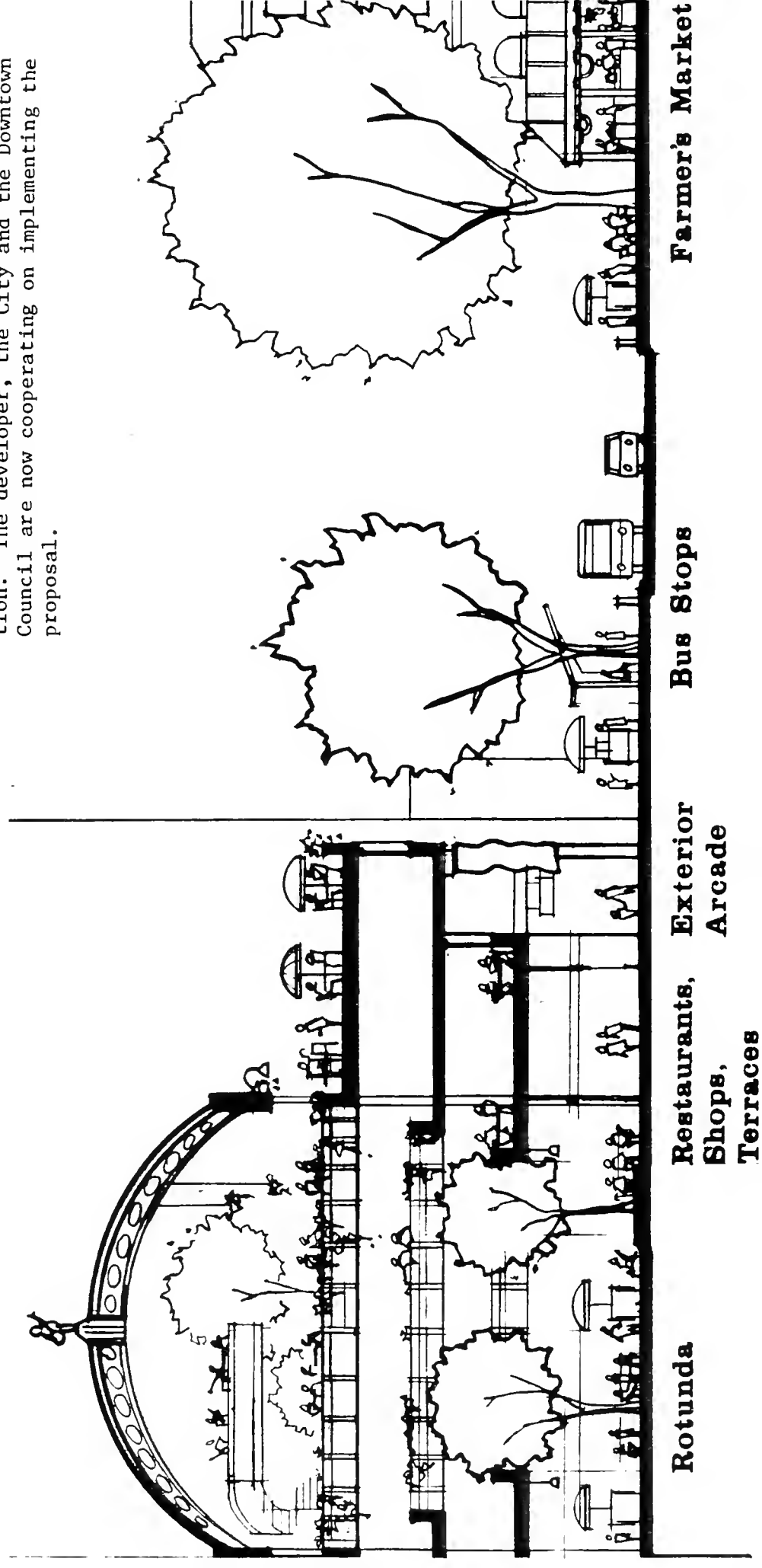
I would have no hesitancy in hiring the Moore-Heder firm again. I have found the principals of the firm to be forthright, highly skilled individuals with a complete dedication to their work.

Sincerely,

Fred Faust
Executive Director

Hartford, Conn. Downtown Transportation Project

In this project, current in 1982, Moore-Heder are the Urban Designers on a consulting team engaged by the City of Hartford and a consortium of private business interests. Pedestrian and streetscape improvements are proposed for major streets. Even more important are a series of public/private joint development project proposals developed by Moore-Heder for critical locations. The Hartford Federal Block/State House Square Concept illustrated on the following pages shows such a project for the central intersection and square of downtown. The Moore-Heder scheme and recommendations were endorsed by the City Council and transmitted to the developer as the expression of the City's direction. The developer, the City and the Downtown Council are now cooperating on implementing the proposal.



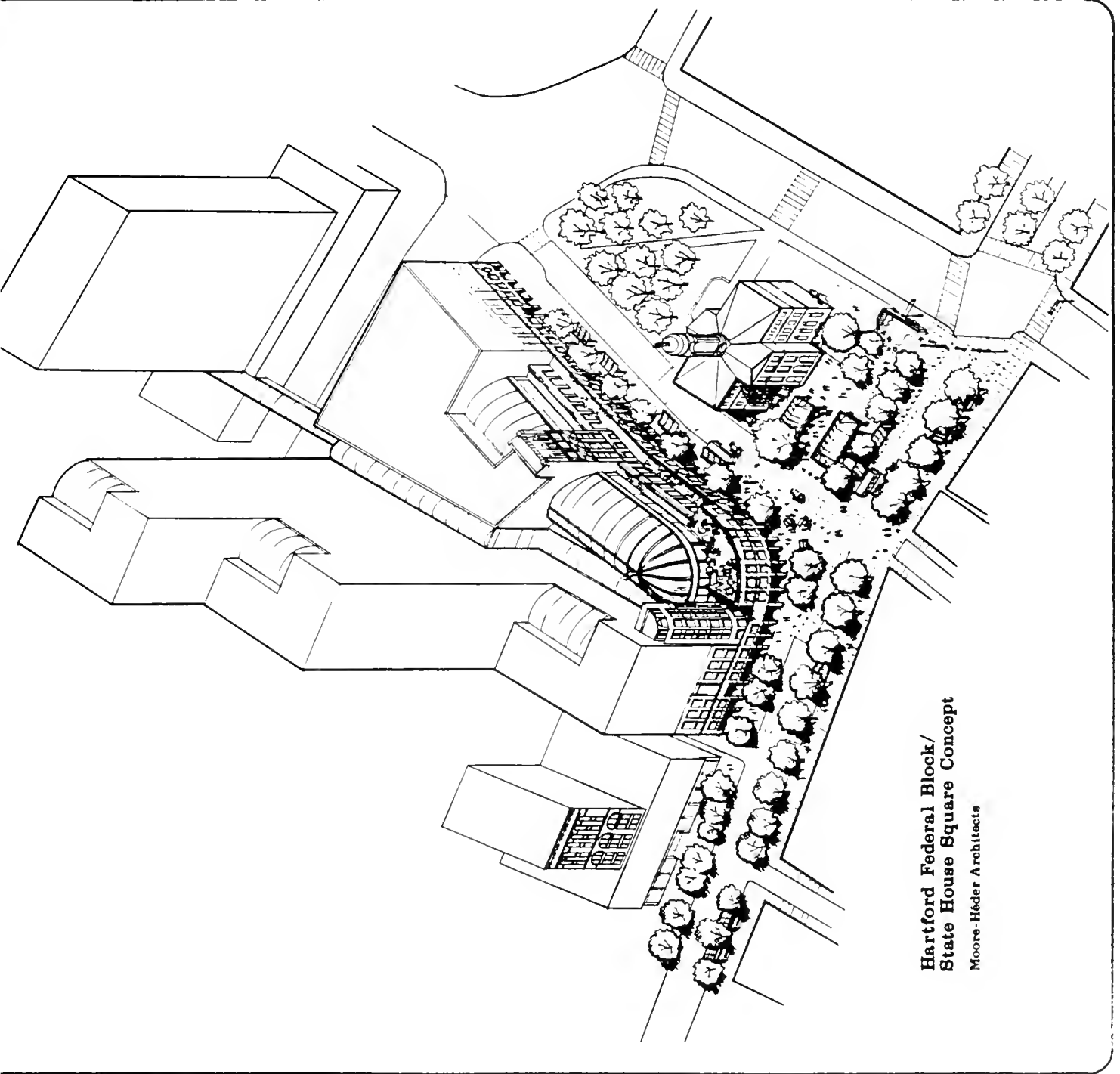
Hartford Federal Block/ State House Square Concept

Downtown Transportation Project

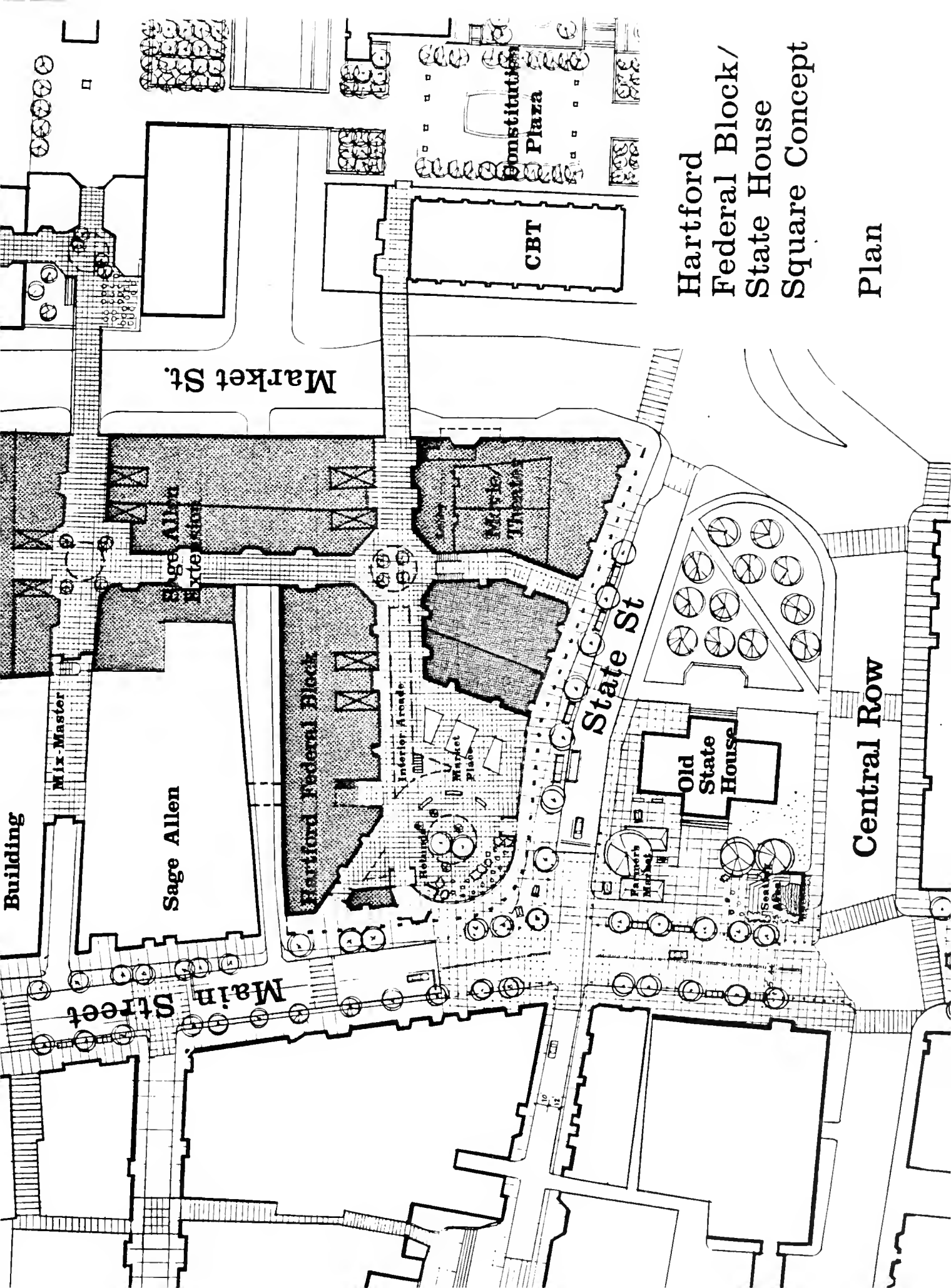
City of
Hartford, Connecticut
1982

by Cambridge Systematics, Inc.
with
T A M S
Moore-Héder
The Urban Partnership
John Brophy and Associates

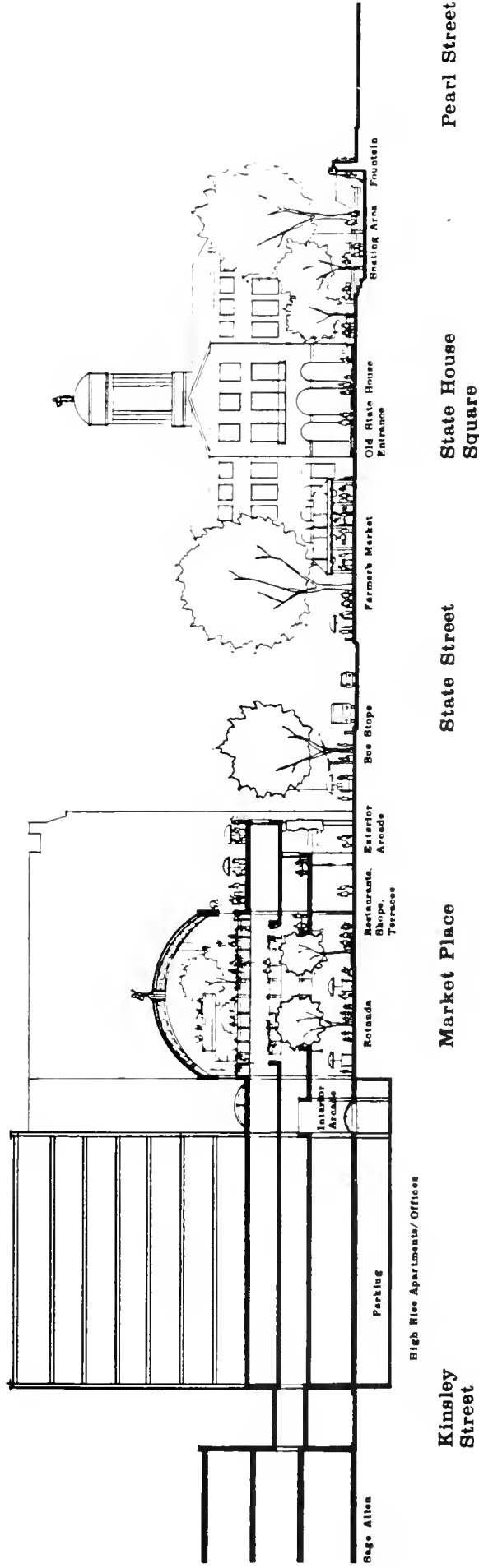
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Date



Hartford Federal Block/
State House Square Concept
Moore-Héder Architects

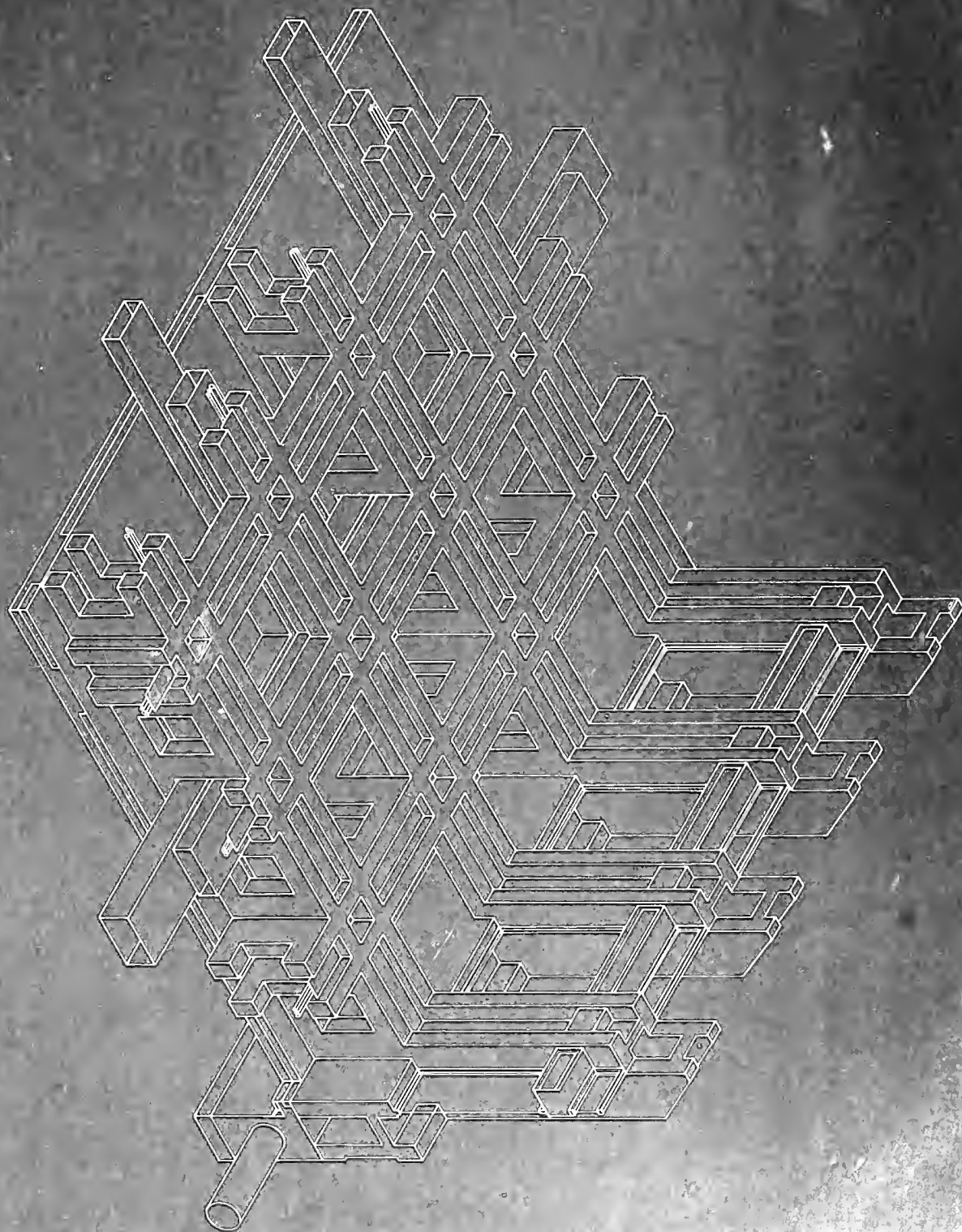


Hartford
Federal Block/
State House
Square Concept
Plan



Hartford Federal Block/ State House Square Concept Cross Section

LeMessurier Associates/SCI
Cambridge, Massachusetts



BACKGROUND AND SERVICES OF LEMESSURIER ASSOCIATES/SCI

LeMessurier Associates/SCI is a multidisciplinary consulting engineering firm that offers comprehensive services to architects, owners, developer-builders, planners, industrial clients, governmental agencies and municipalities on a world-wide front. Principal services are structural engineering for buildings and foundations. SCI projects are found in all of the northeastern states, many of those in the Midwest and in several countries of the Middle East, including commercial, educational, residential and military facilities in Abu Dhabi (United Arab Emirates), Bahrain, Iraq, Egypt and Saudi Arabia. SCI's corporate headquarters is located in Cambridge, Massachusetts; and other offices are maintained in Easthampton and Marion Massachusetts, Windsor Locks and Simsbury, Connecticut; Rome, Italy; and Riyadh, Saudi Arabia.

Since its founding in 1961, LeMessurier Associates/SCI has produced structural designs for buildings with a total construction cost of approximately \$9 billion. Although possibly best known for its skyscrapers, civic and educational buildings, the structural division's practice includes an enviable volume of commercial, institutional, industrial and residential (both multifamily and single family) structures, transportation projects and renovation work. In addition to structural engineering for buildings and foundations, its services include feasibility studies, preparation of specifications, cost estimating and construction supervision.

Computer Aided Design and Drafting (CADD)

SCI is one of the first engineering firms in the country to implement CADD from the outset as an integrated design and drafting system. SCI has used an in-house computer for engineering design and analysis and for project management for over 20 years. Now, SCI has added a state-of-the-art CADD system, which expands SCI's ability to offer increased cost effectiveness, timeliness and quality of product and service to clients.

Cambridge, Massachusetts

William J. LeMessurier, Partner

Mr. LeMessurier is world renowned as a leading authority on the structural design of buildings. His contributions in this field range from skyscrapers, such as New York City's Citicorp Center (7th of the world's tallest buildings) and Boston's Federal Reserve Bank, to the New Boston City Hall, the Johns Manville Headquarters in Denver, and The National Air and Space Museum in Washington, D.C. He is one of the originators of the "staggered truss system" for steel framed buildings, which increasingly is used due to its low cost and short erection time. The American Institute of Steel Construction presented to Mr. LeMessurier a Special Citation in recognition of his outstanding contribution to the advancement of steel framed construction.

Mr. LeMessurier co-authored "Design of Steel Structural Members," part of McGraw-Hill's 2nd Edition 1979 "Structural Engineering Handbook," and authored articles published in "Progressive Architecture," "Architectural Record," and AISC "Engineering Journal." He is a graduate of Harvard College, studied architecture at Harvard's Graduate School of Design, and received a Master of Science degree from Massachusetts Institute of Technology in Structural Engineering.

From 1956 to 1968 along with his professional practice, he was Associate Professor at Harvard Graduate School of Design and subsequently at MIT's Department of Architecture. Since 1973 he has been Lecturer at the Harvard Graduate School of Design.

A charter Fellow of the American Concrete Institute, he serves on the Specification Committee of AISC, and is a member of ASCE, the Boston Association of Structural Engineers, Tau Beta Pi and the Building Seismic Safety Council. In 1978 he was elected to the National Academy of Engineering.

William L. Thoen, Partner

A founding partner of LeMessurier Associates/SCI, Mr. Thoen is thoroughly knowledgeable of all aspects of structural engineering, field supervision and administration. He was principal in charge of the structural design for the Dallas/Ft. Worth Regional Airport Terminal Facility that won an award in the 1973 Prestressed Concrete Institute Awards Competition. He received his B. Arch. from Rensselaer Polytechnic Institute and went on to obtain an MS in Building Construction at MIT. He is a member of ACI, ASCE, MSPE and NSPE.

John E. Brennan, Partner

During his years of practice, Mr. Brennan has developed structural solutions for schools, laboratories, industrial and office buildings, hospitals and bridges. At Boston's Government Center, the Division of Employment Security Building and the Mental Health Building are two of his well known structural designs. He has collaborated on the design of several health care facilities such as Boston City Hospital Outpatient Department, Tufts-New England Medical Center, and State



William J. LeMessurier

University of New York Health Sciences Center. These projects presented unique problems that led to different structural systems to satisfy specific functional needs. He has also worked in the field of long range development programming studies for hospital complexes.

Mr. Brennan has practiced structural engineering since 1955 as an in-house engineer for an A/E firm, as research engineer for special structures, and as engineer, associate and principal of LeMessurier Associates/SCI in Cambridge. He won a BS in Civil Engineering from Merrimack College and has continued his professional schooling at other universities on an informal basis. He is a member of ACI, ASCE, ASTM and PCI.

Hans William Hagen, Partner

Since he joined the newly formed LeMessurier Associates/SCI in 1961, Mr. Hagen has been involved in all phases of the development of structures for schools, dormitories, low and high rise office buildings, libraries, theaters, churches, research and development laboratories, zoo, court, exhibition, music, and athletic facilities—plus full time field inspection. Further, he has been active in structural investigations as well as renovation and remodeling work. He was closely related to the development of welded steel pipe for interior exposed-to-view and exterior exposed-to-weather long span two-and three-dimensional trusses for roofs of school, studio and athletic facilities. Now a principal in the Cambridge office, Mr. Hagen teaches at the Boston Architectural Center and was the co-author of articles that have appeared in McGraw-Hill's *Structural Engineering Handbook* and the *Engineering Journal* of the AISC. He has a BS in Civil Engineering from Lafayette College and an MS in Civil Engineering from MIT. Memberships include ACI, ASCE, NSPE, Boston Architectural Center and Tau Beta Pi.

Kenneth B. Wiesner, Associate

A member of LeMessurier Associates/SCI since its formation, Mr. Wiesner has been an associate in charge of a broad spectrum of building types.

He was closely involved in the structural design of the J.F. Kennedy Federal Building, the County Library, the Public Library Addition, the new Federal Reserve Bank Building, all in Boston, and the Rockefeller University Science Tower in New York. For a number of years he taught a course in structures at the Boston Architectural Center. Mr. Wiesner received a BS in Civil Engineering from Northwestern University (Evanston, Illinois) and an MS in Civil Engineering from MIT, taking as his thesis "Minimum Weight Design of Steel Vierendeel Trusses." He is a member of ACI, ASCE and Tau Beta Pi.

Juris D. Anderson, Associate

After working as a designer on large industrial buildings in the Boston organizations of Charles T. Main and Stone & Webster, Mr. Anderson joined LeMessurier Associates/SCI the first year the firm was established. Projects under his supervision have been framed in reinforced concrete, prestressed concrete and structural steel. Outstanding designs that he has been responsible for are the First National Bank of Boston, a \$50 million office building with 30' x 40' bays for better utilization of space, four major buildings in the huge Boston University Medical Complex, and National Institute for the Deaf, Rochester Institute of Technology, New York. Mr. Anderson has an Associate Degree from Lincoln Institute; he undertook postgraduate work in structural engineering and business administration at Northeastern University. He is a member of ACI.

Roger McCoy, Associate

Mr. McCoy has had broad experience in all structural aspects of more than four dozen projects of sizes up to \$23 million in construction costs. He possesses extensive knowledge of all aspects of concrete design, including cast-in-place and precast, structural steel, aluminum, timber and masonry. He is a recognized specialist in glass design including glass mullion systems and underwater windows. Representative of his projects are the New England Aquarium, Boston, Veterans Memorial Coliseum, New Haven, University of Massachusetts Graduate Research Center, Amherst and the new AIA Headquarters

Building in Washington, D.C. Mr. McCoy joined LeMessurier Associates/SCI as an engineer in 1965 and became an associate in 1969. He is the author of the "Pin Connection Section" of the McGraw Hill *Structural Engineering Handbook*, has had graduate architectural training at the Yale School of Architecture and received his MS in Civil Engineering from MIT.

Richard C. Penkul, Associate

Prior to joining LeMessurier Associates/SCI in 1961, Mr. Penkul had varied experience in municipal, power plant and architectural engineering. As a structural designer, project manager and associate he has been responsible for existing building evaluation and renovation, as well as new building construction involving the use of cast-in-place and post-tensioned concrete, structural steel and wood. Among the projects that Mr. Penkul has been responsible for are: the Science Center at Amherst College, Dormitory Projects #8 and #10 at the University of Massachusetts, Medford High School, O'Malley School in Gloucester, and the College 020 Building at the Boston Campus of the University of Massachusetts. He graduated from Northeastern University with a BS in Civil Engineering.

Franz R. Schemmel, Associate

Mr. Schemmel is thoroughly proficient in the structural design of all materials and his special expertise is in the design of precast, prestressed concrete. His inventiveness and originality were demonstrated in the new technique he developed for the connection of concrete columns and precast, prestressed beams at the Dallas/Ft. Worth Terminal Airport Facility. Mr. Schemmel earned a Dipl. Ing. from the Institute of Technology at Graz, Austria and has an MS in Structural Engineering from Northeastern University.

Robert V. Minchello, Associate

As chief draftsman for LeMessurier Associates/SCI, Mr. Minchello is responsible for all drafting production and personnel. Previous associations have been with Electronic Corporation of

America, Charles T. Main and Goldberg/LeMessurier Associates. He has studied extensively at the Lincoln Technical Institute and the Franklin Technical Institute.

Salvatore Mazzotta, Associate

Mr. Mazzotta heads the firm's computer group which utilizes an in-house computer for both engineering solutions and accounting work. Of special interest is his work in connection with the design of the Dallas/Ft. Worth Airport Terminal Facility. He developed a computer program that prepared a schedule of footing positions and elevations as well as column elevations. The computer output was then photographed and applied directly to working drawings. Prior to joining LeMessurier Associates/SCI in 1965, Mr. Mazzotta had been engaged as a research assistant at MIT. He holds both BS and MS degrees in Civil Engineering from MIT, has been published in the *ASCE Structural Engineering Journal* and is a member of ACL and the Association for Computer Machinery.

John A. Coote, Associate

As a project engineer and associate of LeMessurier Associates/SCI, Mr. Coote has a broad experience of the many phases of building development from conceptual studies and site investigations to schematic and final designs and construction supervision. Responsibility has ranged from the renovation of historic buildings using traditional materials to designs in high strength structural steel and reinforced and prestressed concrete. Projects have been carried out within the United States, Europe and the Middle East, and include the design of office buildings, hotels, schools, garages, industrial buildings, bridges and marine structures. Mr. Coote is a graduate of Westminster College, London, England, and is a Chartered Engineer and Member of the Institution of Civil Engineers of Great Britain.

Andrew Lewis, Associate

Prior to joining LeMessurier Associates/SCI in 1967, Mr. Lewis had been associated for five years

with various consulting engineers in London, England, designing cement and coal handling plants.

As a project engineer and associate, he has had technical and supervisory responsibility for schools, colleges, high and low rise buildings, and hotels, including the Pusey Library at Harvard and the 40-story National Shawmut Bank Headquarters in Boston. He was involved with the design of King Khalid Military City in Saudi Arabia, responsible for three brigades of troop facilities.

Mr. Lewis, both a Registered Professional Engineer in America and a Chartered Engineer in England, is a graduate of Westminster and Brixton Colleges, London, England. He is a member of the American Society of Civil Engineers and English Institute of Structural Engineers, and has served as a lecturer at the Boston Architectural Center.

M. V. Ravindra, Associate

M. V. Ravindra, P. E., joined the firm of LeMessurier Associates/SCI in 1968. As a project engineer and associate, he has had complete technical and supervisory responsibility for structural design, specifications, and construction supervision of structures for schools, colleges and dormitories. Mr. Ravindra has worked on reinforced concrete, precast-prestressed concrete, structural steel and timber structures.

Some of his successfully completed projects have been the Braintree High School, Braintree, Massachusetts; Easton High School, Easton, Massachusetts; Fitchburg State College, Women's Dormitory and the Industrial Arts Complex for the Commonwealth of Massachusetts and the Mount Wachusett Community College for the Commonwealth of Massachusetts.

Mr. Ravindra has been involved in cost control and cost estimating on the King Khalid Military City in Saudi Arabia. He also has been the structural engineer in charge of designs for the Industrial Facilities, the Water Treatment Plant and Power and Chilled Water Plant of the City.

He holds a Bachelor of Civil Engineering degree from the University of Mysore, India and a Master

of Science in Civil Engineering degree from the University of Southampton, England. He has been on the faculty of the Boston Architectural Center and is a registered professional engineer. Prior to joining LeMessurier Associates/SCI, Mr. Ravindra had been associated for eight years with international contracting and design firms in the U.S.A., Europe and India. As a contractor's engineer, he worked on the construction of a steel mill, a power plant, pulp and paper mill and a chemical plant. In these projects he was involved in field supervision, contract negotiations and construction planning. As a structural engineer his responsibilities were centered on the design of nuclear, fossil fuel and hydro-electric power plants as well as marine structures.

Lee C. Lim, Associate

Dr. Lim's specialty is structural stability work on new and existing buildings. Since he joined the firm in 1970 he has prepared, designed, and coordinated all phases of structural documents. He has been responsible for the handling and monitoring of structural items during the construction of high- and low-rise office buildings, residential facilities, and above-ground and underground transportation systems. Dr. Lim also is knowledgeable in the design of offshore structures.

He holds both BE and MEngSc degrees from the University of Sydney, and a PhD in civil engineering from Lehigh University. He has written articles concerning structural stability, plastic design, post-buckling strength of steel structures, composite steel and concrete structures for several technical journals. He is a contributing author for the ASCE Manual No. 41 "Plastic Design in Steel," (2nd ed.); McGraw-Hill's "Structural Engineering Handbook," (2nd ed.); and the ASCE Monograph "Structural Design of Tall Steel Buildings."

Dr. Lim is a registered professional engineer and his memberships include ASCE, BSCE, ASCE-IABSE International Committee on Tall Buildings, and the Structural Stability Research Council. He was a lecturer at the University of New South Wales and a Senior Research Associate at the University of Sydney.

Rolf G. Andersson, Associate

Mr. Andersson joined LeMessurier Associates/SCI in 1968, two years after receiving his MS in Structures from Chalmers University of Technology in Gothenburg, Sweden. At SCI, he has been responsible for building projects using reinforced concrete, precast, prestressed and post-tensioned, as well as bearing block, structural steel and timber structures. He has been responsible for design of the industrial buildings and mosques for the King Khalid City project, as well as major domestic high-rise buildings, such as One Post Office Square Office Tower and the Fiduciary Trust Building. Mr. Andersson is in charge of the design of the 26 story Dalton Hotel to be built in Boston.

Robert M. Florentino, Associate

Mr. Florentino joined LeMessurier Associates/SCI engineering/drafting group in 1963. Since that time, he has been involved in all major projects. His responsibilities have included development and implementation of engineering/drafting standards, quality control, research on engineering/drafting production methods, plus the training of new drafters and project assignment of drafting personnel. Mr. Florentino studied engineering at El Camino College in California and at Boston University, and has continued engineering studies through the Harvard University Extension program.

Wayne King, Associate

Mr. King has been with LeMessurier Associates/SCI since 1971. He graduated from University of Wisconsin with a BS in Civil Engineering, further studied Civil Engineering at Illinois Institute of Technology and Northeastern University, and attended Harvard Law School. His responsibilities include design analyses, design cost controls, construction cost estimates, specifications and construction contract administration. He has worked on projects involving steel, aluminum, timber, concrete (precast and post-tensioned), restoration and renovation. Notable buildings that he has been responsible for are the Charleston S. C. Museum, American Academy of

Arts and Science Center and the Eugene, Oregon Performing Arts Center. Mr. King, registered in Massachusetts, is a member of the American Concrete Institute, Tau Beta Pi, and Chi Epsilon. He has served as lecturer at the Boston Architectural Center.

D. Fraser Sinclair, Associate

Mr. Sinclair, Registered Professional Engineer as well as Registered Architect, has been with LeMessurier Associates/SCI since 1973. He is a graduate of Cornell University receiving a BA in Architecture and in 1969 received his MS in Civil Engineering from MIT. Before joining LeMessurier Associates/SCI, he lived in London, working as architect with Sir Dennis Lasdun and then as engineer with the engineering firm Ove Arup & Partners. In earlier years, as a Peace Corps volunteer, he worked under the Ministry of the Interior in the Province of Yazd, Iran, as Director of City Planning. Mr. Sinclair has been invaluable at SCI in the development of computer programs to assist in the design and analysis of structures. He served as engineer-in-charge for the engineering design of the Massachusetts Transportation Headquarters Building in downtown Boston.

Robert A. Lacourse, Associate

Mr. Lacourse joined SCI in 1977 as Manager of the newly-created Civil/Site Engineering Department, Cambridge location. He is a Civil Engineering graduate of Southeastern Massachusetts University and is working on his MS degree in Environmental Engineering at Northeastern University. At SCI he has directed the design and preparation of construction documents for major civil engineering projects. He was engineer in charge of the civil and rail engineering for a multi-million dollar Amtrak railroad improvement program. Mr. Lacourse, a member of the Water Pollution Control Federation is a Professional Engineer registered in the states of Connecticut, Massachusetts, Rhode Island, Virginia and Delaware.

Members of LeMessurier Associates/SCI are licensed to practice Professional Engineering in the following states: Arkansas, California, Canal Zone, Colorado, Connecticut, Delaware, District of Columbia, Florida, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, and Wisconsin.

Honors

American Institute of Architects
Allied Professions Medal 1968

Boston Society of Architects
Harleston Parker Medal 1970

Architectural League of New York
1962 National Gold Medal Exhibition
of the Building Arts

Progressive Architecture
Design Award 1958, 1961, 1965, 1969

American Institute of Steel Construction
Award of Excellence 1962, 1966, 1970, 1977
Special Citation Award 1973

Building Research Institute
Citation 1962

Prestressed Concrete Institute
Award 1969, 1973



THE AMERICAN INSTITUTE OF ARCHITECTS
1735 K STREET, N.W.
WASHINGTON, D.C. 20004

LEMESSURIER ASSOCIATES INC. INCORPORATED

2500 K STREET, N.W.
WASHINGTON, D.C. 20007
The American Institute of Architects has
honored LeMessurier Associates, Inc. with
the Allied Professions Medal for the
design of the Federal Reserve Bank
Building in New York City. This award
is given to the architect or architect-engineer
for a building which is a masterpiece of
design and construction. The award is
presented annually to the architect or
architect-engineer who has made the
most significant contribution to the
art and science of architecture.





Ezra Stoller © ESTD

Design Research
Cambridge, Massachusetts
Architects Benjamin Thompson Associates

	Project	Architects	Cost (\$ Millions)	Project	Architects	Cost (\$ Millions)
Commerce	Charlestown Savings Bank Boston, Massachusetts	The Architects Collaborative	8.0	Federal Reserve Bank of New York New York, New York	Kevin Roche John Dinkeloo and Associates	60.0
	City Bank & Trust Watertown, Massachusetts	Stahl/Bennett	1.5	First National Bank Boston, Massachusetts	Campbell, Aldrich and Nulty	40.0
	Coolidge Bank & Trust Watertown, Massachusetts	Benjamin Thompson Associates	1.3	National Shawmut Bank Boston, Massachusetts	The Architects Collaborative	65.0
	Essex County Bank Peabody, Massachusetts	PARC Team	4.7	State Street Bank and Trust Company Boston, Massachusetts	F.A. Stahl and Associates, Hugh Stubbins and Associates	30.0
	Federal Reserve Bank of Boston Boston, Massachusetts	Hugh Stubbins and Associates	75.0	Worcester Guaranty Bank Worcester, Massachusetts	Stahl/Bennett	6.8
	Blue Cross-Blue Shield Building Boston, Massachusetts	Welton Becket and Associates	40.0	Northwestern Mutual Life Insurance H. O. Building Milwaukee, Wisconsin	Poor, Swanke, Hayden & Connell – Sasaki Associates, Inc.	30.0
	Citicorp Center New York, New York	Hugh Stubbins and Associates	150.0	Ralston Purina Building St. Louis, Missouri	Hellmuth, Obata and Kassabaum	7.5
	Division of Employment Security Building Boston, Massachusetts	Paul Rudolph; Shepley, Bulfinch, Richardson and Abbott	11.0	Squibb Headquarters Lawrenceville, New Jersey	Hellmuth, Obata and Kassabaum	27.0
	Emerson Electric Company St. Louis, Missouri	Hellmuth, Obata and Kassabaum	5.4	State Office Building Wilmington, Delaware	The Architects Collaborative	8.0
	Fiduciary Trust Building Boston, Massachusetts	The Architects Collaborative	9.0	Stone & Webster Headquarters Building Boston, Massachusetts	Welton Becket and Associates	40.0
	Ginn & Company Boston, Massachusetts	Anderson, Beckwith and Haible	8.1	Union Mutual Life Insurance Portland, Maine	Hugh Stubbins and Associates	7.2
	John F. Kennedy Federal Office Building Boston, Massachusetts	The Architects Collaborative; Samuel Glaser Associates	23.0	W. R. Grace Headquarters Lexington, Massachusetts	Beckstoffer/Hunter	3.0
	Johns-Manville World Headquarters Denver, Colorado	The Architects Collaborative	56.0	Walk Jones & Francis Mah Building Memphis, Tennessee	Walk Jones & Francis Mah	1.0
	Kemper Insurance Company Ouncy, Massachusetts	Architects Design Group	5.8	1033 Massachusetts Avenue Cambridge, Massachusetts	Hugh Stubbins and Associates	2.1

Representative projects completed or in progress

Project	Architects	Cost (\$ Millions)	Project	Architects	Cost (\$ Millions)
<i>Education</i>	Amherst College Science Center Amherst, Massachusetts	6.0	New England Center for Continuing Education Durham, New Hampshire	William L. Pereira Associates	2.7
	Belleville Area College Phases I & II Belleville, Illinois	4.0	Northeastern Student Center Boston, Massachusetts	Shepley, Bulfinch, Richardson and Abbott	2.5
	Berkshire Common College Pittsfield, Massachusetts	9.0	Providence College Faculty Residence Providence, Rhode Island	Sasaki, Dawson, DeMay Associates	1.6
	Brandeis Student Union Waltham, Massachusetts	4.0	Rochester Institute of Technology Rochester, New York		
	Castleton Academic Building Castleton, Vermont	.9	Administration Building and Student Union	Kevin Roche John Dinkeloo and Associates	5.7
	College of Lake County Phase I Grayslake, Illinois	6.0	Applied Science Building	Anderson, Beckwith and Haible	3.2
	Colorado College Music and Arts Building Colorado Springs, Colorado	3.0	College of Fine and Applied Arts, Graphic Arts and Photography	Hugh Stubbins and Associates	6.3
	Columbia University Teachers College New York, New York	5.6	Dormitories	Edward Larrabee Barnes	7.2
	Harvard Graduate School of Design, George Gund Hall Cambridge, Massachusetts	6.0	Library	Harry Weese and Associates	1.7
	Harvard University Carpenter Center for the Visual Arts Cambridge, Massachusetts	2.0	Shelby State Community College East and Midtown Memphis, Tennessee	Walk Jones & Francis Mah	5.0
	Harvard University Pusey Library Cambridge, Massachusetts	4.4	Shiraz Technical Institute Shiraz, Iran	Hugh Stubbins and Associates	
	Manhattan Community College New York, New York	45.0	Smith College Art Complex Northampton, Massachusetts	John Andrews/Anderson/Baldwin	6.0
	Mt. Wachusett College Phases I & II Gardner, Massachusetts	22.4	Southeastern Massachusetts University Dining Facility North Dartmouth, Massachusetts	Hugh Stubbins and Associates	1.5
			State University of New York Sasaki, Dawson, DeMay Associates at Buffalo		18.7
			Library and Student Union Buffalo, New York		

Representative projects completed or in progress

Project	Architects	Cost (\$ Millions)	Project	Architects	Cost (\$ Millions)
<i>Education (continued)</i>	State University of New York College at Purchase Dance Instructional Facility Purchase, New York	6 0	University of Massachusetts Amherst, Massachusetts		
	University of California Robbins Library Berkeley, California	2 0	Dining Halls Dormitories Projects 2 - 10	Hugh Stubbins and Associates	37 0
	University of Louisville Humanities Building Louisville, Kentucky	3 0	Fine Arts Building	Kevin Roche John Dinkeloo and Associates	10 0
	University of Maine Student Center Farmington, Maine	1 0	Graduate Research Center	Campbell, Aldrich and Nulty	13 5
	University of Massachusetts Columbia Point Educational Facilities Boston, Massachusetts	65 0	University of Vermont Music Building Burlington, Vermont	Burlington Associates	9
	Acton Elementary School Acton, Massachusetts	1 0	Chaffee School Windsor, Connecticut	Sasaki, Dawson, DeMay Associates	1 6
	Agassiz Elementary School Boston, Massachusetts	4 6	Contoocook Valley Cooperative High School Peterborough, New Hampshire	Carter and Woodruff	2 7
	Amesbury Elementary School Amesbury, Massachusetts	1 8	Easton High School Easton, Massachusetts	Rich, Phinney, Lang and Coré	4 3
	Bancroft School Andover, Massachusetts	1 4	Falmouth High School Falmouth, Massachusetts	Earl R Flansburgh and Associates	9 4
	Bennington High School Bennington, Vermont	2 9	Greenwich Country Day School Greenwich, Connecticut	Hugh Stubbins and Associates	2 6
	Brantree High School Braintree, Massachusetts	10 6	Hotchkiss School Lakeville, Connecticut	Hugh Stubbins and Associates	3 0
	Broome State School Dickinson, New York	16 0	Lewiston Comprehensive High School Lewiston, Maine	Deane M Woodward Associates	5 1
	Burlington High School Burlington, Massachusetts	12 4			

Representative projects completed or in progress

Project		Architects	Cost (\$ Millions)	Project	Architects	Cost (\$ Millions)
<i>Education (continued)</i>	Medford High School Medford, Massachusetts	Rich, Phinney, Lang and Cote	15.0	Peabody High School Peabody, Massachusetts	Earl R. Flansburgh and Associates	9.4
	Minuteman Regional Vocational Technical School Lexington, Massachusetts	Drummev, Rosane, Anderson	12.5	Pittsburgh Great High Schools Pittsburgh, Pennsylvania (Project not built)	Hellmuth, Obata and Kassabaum	86.5
	Noble & Greenough School Dedham, Massachusetts	Hugh Stubbins and Associates	1.9	Revere Middle School Revere, Massachusetts	Desmond and Lord	5.0
	Olney Street School Boston, Massachusetts	Benjamin Thompson Associates	5.4	John M. Tobin School Cambridge, Massachusetts	Sasaki, Dawson, DeMay Associates	4.5
	Ralph B. O'Malley Middle School Gloucester, Massachusetts	Edward J. Tedesco Associates	8.6	Weston Junior High School Weston, Massachusetts	Cambridge Seven Associates	3.4
<i>Health</i>	As Salaam Hospital Cairo, Egypt	Rogers, Butler and Burgun	30.0	National Institute of Child Health and Human Development Building No. 33 Bethesda, Maryland	The Architects Collaborative	8.0
	Boston City Hospital Boston, Massachusetts			New England Baptist Hospital School of Nursing Boston, Massachusetts	Architects Design Group	1.5
	Outpatient Department	Hugh Stubbins/Rex Allen Partnership	13.7	New England Deaconess Hospital (Alterations and Additions to Central Building) Boston, Massachusetts	Shepley, Bulfinch, Richardson and Abbott	8.0
	Mechanical Plant	Hugh Stubbins/Rex Allen Partnership	10.0			
	Boston University Medical Building Boston, Massachusetts	Shepley, Bulfinch, Richardson and Abbott	2.0			
	Brockton Medical Center Brockton, Massachusetts	Eisenberg/Schiffer	2.1			
	Commonwealth of Massachusetts Mental Health Building Boston, Massachusetts	Paul Rudolph, Desmond and Lord	11.0	Rockefeller University Science Tower New York, New York	Campbell, Aldrich and Nulty	15.0
	Exeter Clinic Exeter, New Hampshire	Carter and Woodruff	1.0	St. Jude Children's Research Hospital Memphis, Tennessee	Walk Jones & Francis Mah	6.6
	Harvard School of Public Health Boston, Massachusetts	Meathe, Kessler and Associates	8.0			
	Massachusetts Eye and Ear Infirmary Boston, Massachusetts	Walk Jones & Francis Mah	31.0	Sate University of New York at Buffalo Health Sciences Center Buffalo, New York	Hellmuth, Obata and Kassabaum	21.0

Project		Architects		Cost (\$ Millions)	Project	Architects	Cost (\$ Millions)
<i>Health (continued)</i>	Tufts-New England Medical Center Boston, Massachusetts				University of Wisconsin Medical Center Madison, Wisconsin	Hellmuth, Obata and Kassabaum; John J. Flad and Associates	61.0
	Dental School Building	The Architects Collaborative	13.0		Williams College Science Building Williamstown, Massachusetts	Benjamin Thompson Associates	3.0
	Proger Building	The Architects Collaborative	11.0				
	University of Massachusetts Medical School Worcester, Massachusetts	Campbell, Aldrich and Nulty; Ritchie Associates, Inc.	51.0				
<i>Hotels</i>	Brickyard Mountain Inn Weirs Beach, New Hampshire	Sasaki, Dawson, DeMay Associates	1.2		Hyatt Regency Hotel Cambridge, Massachusetts	575 Associates, Welton Becket and Associates	17.5
	Colonial Hilton (Berkshire Common) Pittsfield, Massachusetts	Hugh Stubbins and Associates	9.0		Intercontinental Hotel Abu Dhabi United Arab Emirates	Benjamin Thompson Associates	120.0
	Corning Hilton Inn Corning, New York	Sasaki, Dawson, DeMay Associates	2.8		Intercontinental Oasis Hotel Al Ain, United Arab Emirates	Benjamin Thompson Associates	45.0
	Howard Johnson Motel Boston, Massachusetts	Edgar H. Wood	1.0				
<i>Housing</i>	Hyatt Regency Ridgeway Hotel Memphis, Tennessee	Walk Jones & Francis Mah	8.0				
	Cambridge Housing for the Elderly Cambridge, Massachusetts	Benjamin Thompson Associates	10.0		Schermerhorn Towers Brooklyn, New York	Benjamin Thompson Associates	33.8
	Charlesbank Apartments Brookline, Massachusetts	Hugh Stubbins and Associates	4.0		Tall Oaks Condominiums Weymouth, Massachusetts	Commonwealth Communities Unlimited	2.0
	Detroit Housing (Low and High Rise) Detroit, Michigan	Ashley and Myer, Rogers and Moore	6.2		Washington Park Elderly Housing Boston, Massachusetts	Earl R. Flansburgh and Associates	1.9
	Mad River Condominiums New Hampshire	Drumme, Rosane, Anderson	0.7		Waterville Valley New Hampshire	J. Flewelling/Todd/Baldwin	0.9
	Marine Barracks Washington, D.C.	Hellmuth, Obata and Kassabaum	8.1		1010 Memorial Drive Cambridge, Massachusetts	Colin and Haft	2.8
	Memphis Housing for the Elderly Luther Towers Barry Homes Memphis, Tennessee	Walk Jones & Francis Mah	2.6		1105 Massachusetts Avenue Cambridge, Massachusetts	Hugh Stubbins and Associates	3.0
Dormitories for the following educational institutions: Boston College, Brandeis, Dartmouth, Harvard, Massachusetts Institute of Technology, Phillips Academy, Rensselaer Polytechnic Institute, Rochester Institute of Technology, Princeton, Tufts, University of Massachusetts and Williams.							

Representative projects completed or in progress

	Project	Architects	Cost (\$ Millions)	Project	Architects	Cost (\$ Millions)
Public Use	Boston City Hall Boston, Massachusetts	Kallmann, McKinnell and Knowles; Campbell, Aldrich and Nulty	25.0	Dulles International Airport Terminal Expansion Washington, D.C.	Hellmuth, Obata and Kassabaum	8.5
	Boston Public Library Addition Boston, Massachusetts	Philip Johnson and John Burgee, Architects Design Group	21.5	Headquarters Building for the Bahrain Defense Force State of Bahrain	The Architects Collaborative	11.0
	Dallas/Fort Worth Regional Airport Terminal Dallas & Tarrant Counties Texas	Hellmuth, Obata and Kassabaum; Brodsky, Hopf and Adler	65.0	Massachusetts Transportation Headquarters Building Boston, Massachusetts	Goody, Clancy and Associates	54.0
Recreation	Baltimore Aquarium Baltimore, Maryland	Cambridge Seven Associates	14.0	National Air and Space Museum Washington, D.C.	Hellmuth, Obata and Kassabaum	37.0
	Brooks Memorial Art Gallery Addition Memphis, Tennessee	Walk Jones & Francis Mah	1.0	New England Aquarium Boston, Massachusetts	Cambridge Seven Associates	4.0
	Busch Gardens Williamsburg, Virginia	Peckham-Guyton, Architects	20.0	St. Louis Art Museum Addition St. Louis, Missouri	Hardy Holzman Pfeiffer Associates	8.0
	Mississippi River Festival Tent Southern Illinois University Edwardsville, Illinois	Anselvicus/Rupe and Larry Medlin, Associated Architects	0.05			
Renovation	Bowdoin Dormitories Brunswick, Maine	Hugh Stubbins and Associates	180	Institute of Contemporary Arts (Police Station #16) Boston, Massachusetts	Gund/Monacelli	0.75
	Bowdoin Street Apartments Boston, Massachusetts	F. A. Stahl Associates	05	North and South Market Streets Boston, Massachusetts	F. A. Stahl Associates	3.0
	Congregational Church Concord, Massachusetts	Frank Kennett	05	Old City Hall Boston, Massachusetts	J. Timothy Anderson	1.0
	Deerfield Academy Deerfield, Massachusetts	Society for the Preservation of New England Antiquities	01	Shaker Village Barn Western Massachusetts	Society for the Preservation of New England Antiquities	0.150
	Digital Equipment Corp. PMR Administration Building Maynard, Massachusetts	Hugh Stubbins and Associates	2.2	Vendome Hotel Boston, Massachusetts	F. A. Stahl Associates	2.0
	Downtown Washington Streets for People Washington, D.C.	Arrowstreet	6.0	Miscellaneous residential work on Beacon Hill, Boston, Massachusetts		0.1
Military	King Khalid Military City Al Batin, Saudi Arabia	Brown, Daltas and Associates	5000.0			

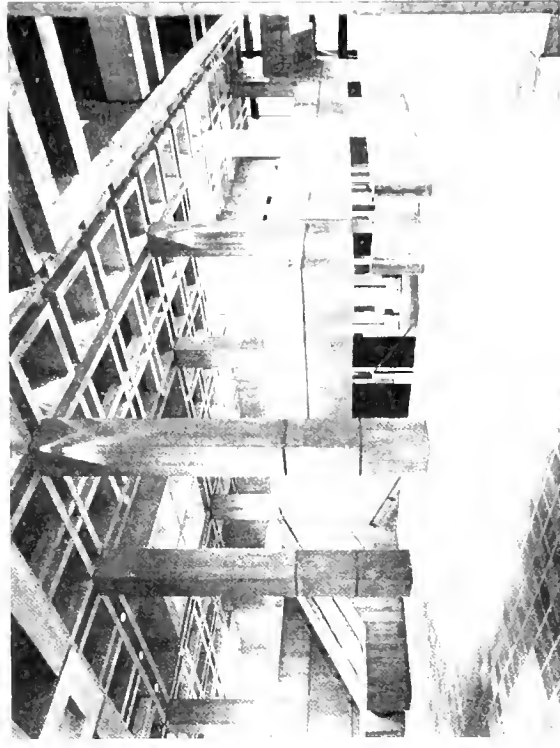
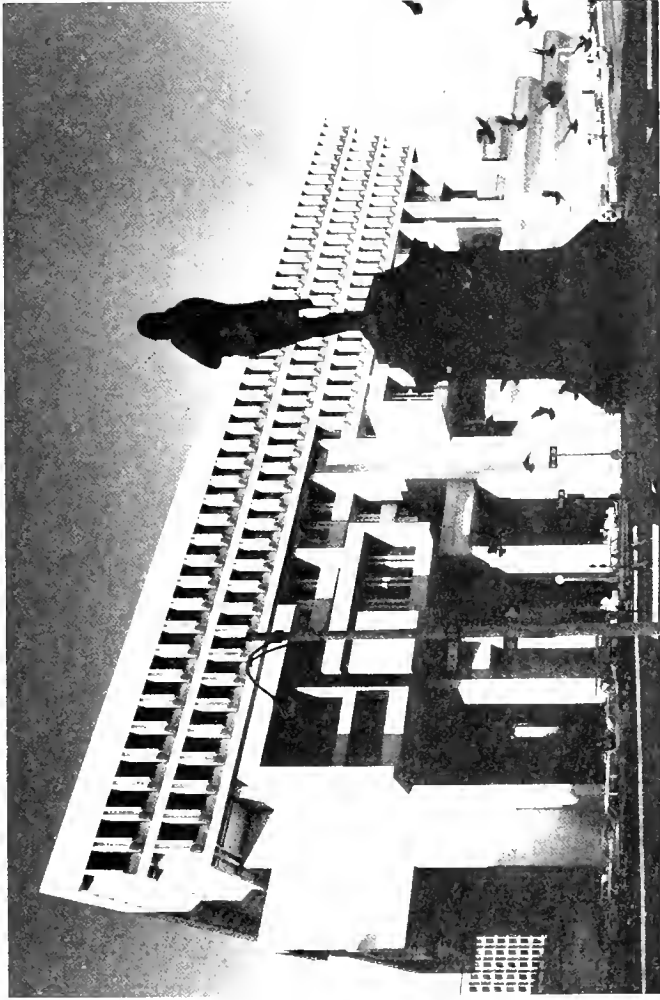
Boston City Hall
Boston, Massachusetts

Architects:

Joint Venture—Kallmann, McKinnell
& Knowles; Campbell, Aldrich &
Nulty; LeMessurier Associates

LeMessurier Associates/SCI
Structural engineers

Public Use



The pièce de résistance of Boston's new Government Center, its new City Hall, is the result of an open competition won by architects Kallmann, McKinnell & Knowles.

Lower elements of the building provide facilities for minor transactions involving the general public—such as paying taxes and obtaining permits. This level features an inner courtyard enclosed by a large rectangular

opening in the upper floors of the building. Above the plaza are the Mayor's office, the Council Chambers, the councilors' offices and the library, each strongly expressed in the form of the structure. The upper three floors contain administrative offices.

The building contains a unique precast concrete Vierendeel truss system that is combined with board-form-finished cast-in-place

concrete columns and walls to comprise the basic framework. Structural concrete, both precast and cast-in-place, is exposed to view throughout the building. As the architecture consists mainly of exposed structural elements, an unusually high degree of cooperation between architects and engineers was required.

Exra Stoller '85 ESTO

Federal Reserve Bank
Boston, Massachusetts

Architects:
Hugh Stubbins and Associates

Commerce

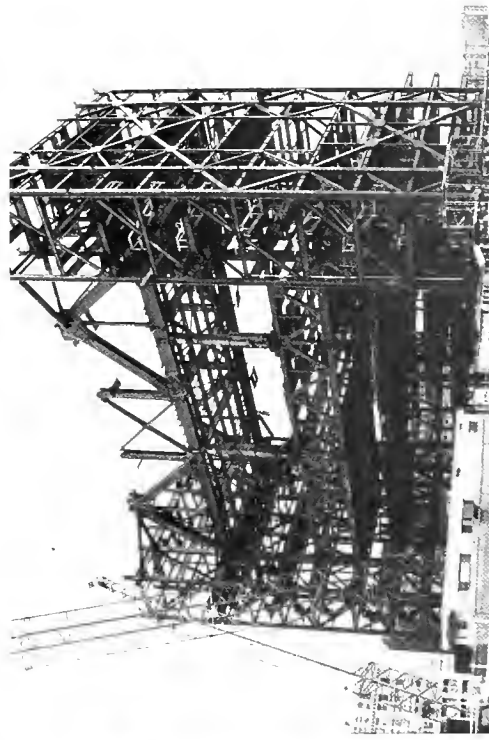
LeMessurier Associates/SCI
Structural engineers



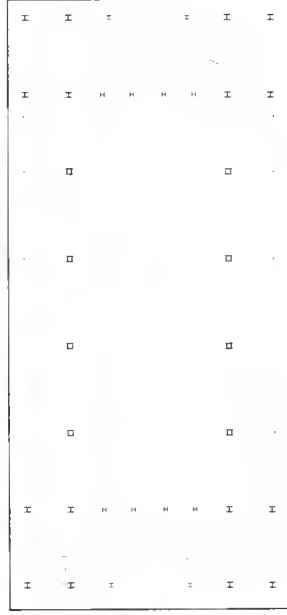
This 33-story office tower rises 580 ft above a large landscaped plaza supporting an adjoining four-story bank operations center, vaults and an auditorium. Framed with structural steel, the structure typically has lightweight concrete slabs cast on steel deck and acting compositely with the steel beams.

Tower floors have typical column spacing of 30' x 55' and 15-ft cantilevers. Slenderness of the tower and the wide opening near its

base presented engineering challenges. Tower transverse wind forces are carried by four full-depth bents in the "core" areas at each end. Two exterior bents incorporate "supertruss" x-bracing and resist most of the wind load, while the two inner bents are fully moment resisting in order to comply with earthquake design criteria. The eight columns between cores are supported on two huge steel transfer trusses 36-ft deep, spanning 144 ft at the fifth floor. The heavily loaded

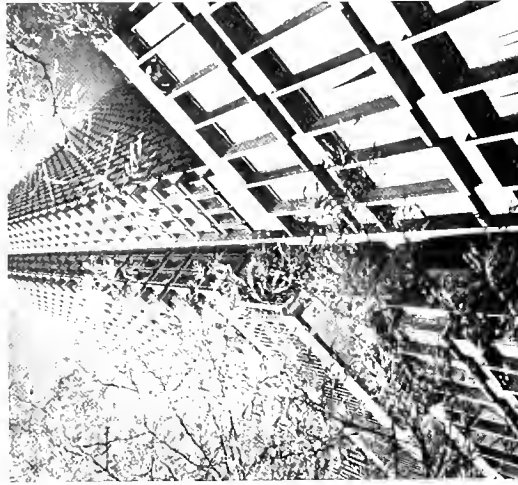
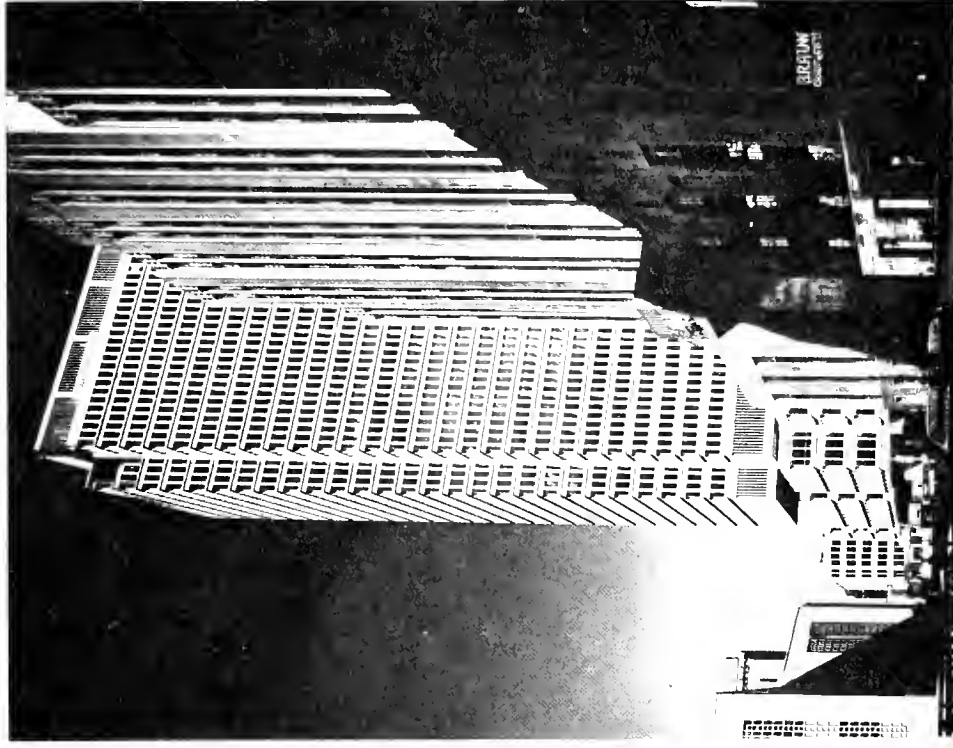


George Zimberg



core columns bear on 8-ft thick, 1400 cu yd concrete mats cast on a solid base of glacial till. Extensive wind tunnel testing of models of the building and its surroundings was undertaken at the University of Western Ontario. The results proved the safety, rigidity and comfort of the design and in addition provided design wind pressures on the building exterior skin.

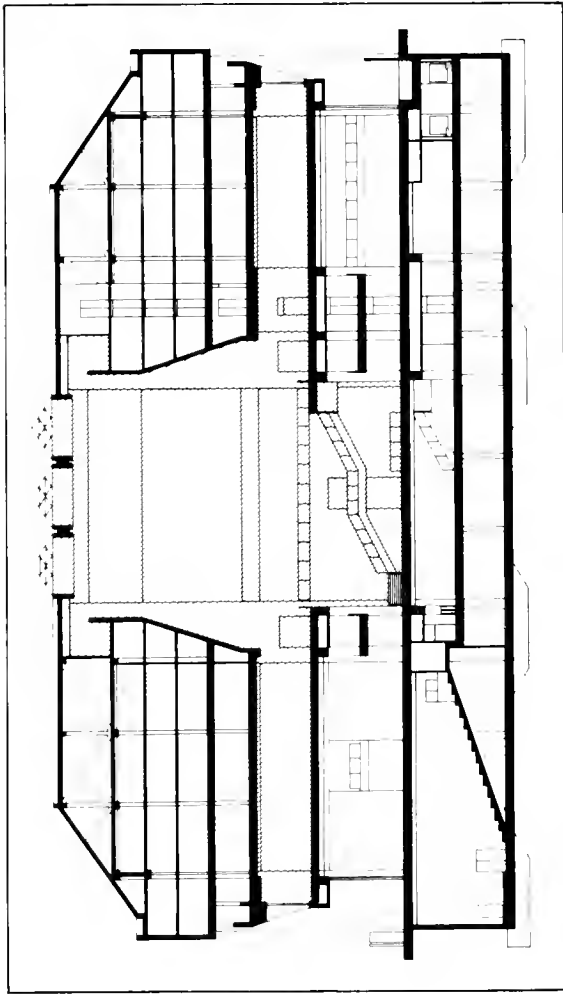
Construction cost of this 1,200,000 sq ft building was \$73-million.



This 34-story office building rises 478 ft above street level and has 816,000 sq ft of rentable space with individually tenant-controlled air-conditioning. The tower portion of the building—there are three basement levels—is supported on a 6-foot thick reinforced concrete mat. An early version of the computer program STRESS was utilized in proportioning the structural steel framework

(ASTM A36 and A441) which is connected by either high strength bolts or welds. Lateral wind loads are resisted by a series of structural steel rigid frames in combination with a vertical truss bracing system in both principal directions. Filler beams in the floor system typically support a system of lightweight concrete composite with corrugated steel and blended cellular steel deck used for the distri-

bution of telephone, power and signal service. Clad with articulated precast architectural concrete and glass, the building was completed at a cost of \$30,000,000



Concrete walls back up the granite facing of this seven-story concrete and steel structure. Short 19-ft span flat slab construction was used at ground level and below, and for the four hanging floors. Large open areas were provided at the ground and second floor by supporting floor three and those above from story-deep steel roof trusses and plate girders spanning 58 ft between major steel columns.

The unusual second floor design consists of 60-ft square waffle slabs only 20-in. deep, post-tensioned both ways, and made composite with supporting steel girders. Interior "bridges" at mezzanine level used the steel orthotropic plate concept and composite action to span 58 ft with less than 20 in. structural depth. Foundations are 7-ft thick under major columns, and are tied together with a

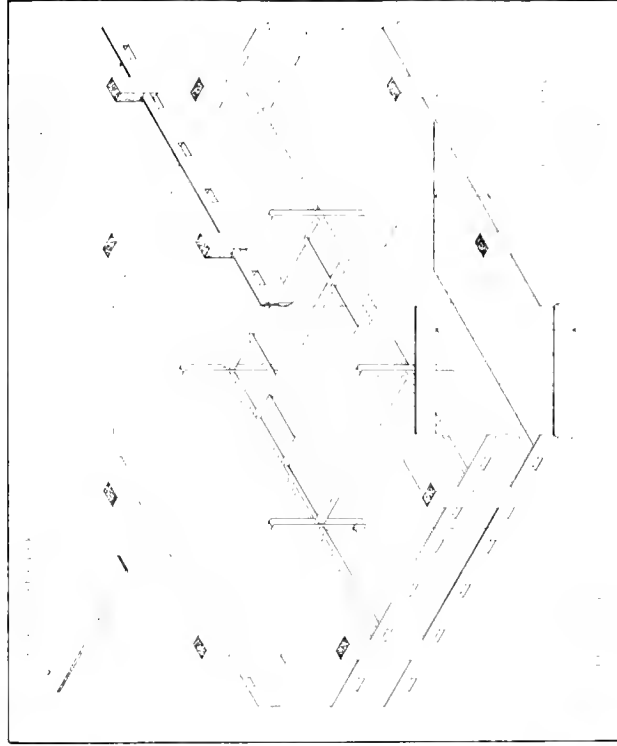


Nathaniel Liberman

3-ft pressure slab to resist ground water uplift pressure of 1000 psf. The large deep basement and foundation excavation was as much as 30 ft below ground water level. Particular care was taken to control excavation, ground water and foundation concrete placement to avoid excessive movement of the adjacent land mark central library.



George Zimmer



Massachusetts Institute of Technology's 24-story dormitory was originally conceived as a steel tower with precast concrete exterior panels. However, as the architect and his structural engineer shared in the creative process of further development of the design concept, it became evident that the exterior precast work should be designed so as to function as a part of the structural system. As a result of this collaboration, a precast concrete structural bent consisting of integral column and spandrel components with cantilevering extensions became the principal exterior framing members. The octagonal-type configuration of the plan allowed the spandrel cantilevers to receive the reactions

of the diagonal corner units. This refinement eliminated some 65 percent of the structural steel and resulted in a net savings of approximately \$ 1/2 -million. Limited headroom and other considerations made it preferable to retain the structural steel framing for the interior of the building. Precast planks with concrete topping in the floor system of the exterior bays span between interior steel girders and haunches provided on the exterior precast bents. In the core area, concrete slabs act compositely with metal decking. Erectors reacted favorably to the concept of combined precast concrete and structural steel and no unusual construction problems were encountered.

Soil characteristics in the area presented a settlement problem that would have required piles over 200 ft in length. Therefore, the base was designed as a "floating foundation" in which the net difference in soil pressure at foundation level, before and after construction, was not allowed to exceed 500 psf. In order to decrease the weight of the mat as well as the depth of the excavation, the lower story of the two level basement was designed as a box foundation.

Citicorp Center
New York City, New York

Architects:
Hugh Stubbins and
Associates

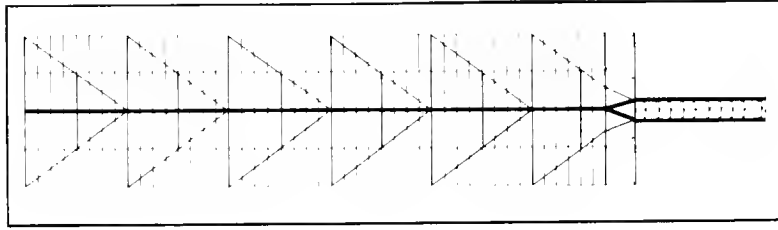
Commerce

LeMessurier Associates/SCI
Structural engineers



Hugh Stubbins and Associates

Headquarters for one of the world's major banking institutions, at 914 ft high, Citicorp is the world's seventh tallest building. Wind forces are resisted by diagonal trusses in all four walls, which in turn are supported by four free-standing columns 112 ft high located in the middle of each wall. Each corner of the tower is cantilevered 66 ft in two directions. To prevent acceleration of the tower in wind, Citicorp is the world's first office building to be designed with a tuned mass damper. Efficient framing resulted in the use of only 20,000 tons of structural steel, or 25 lbs psf. Structural engineering was by a joint venture of The Office of James Ruderman and LeMessurier Associates/SCI. Construction Cost: \$ 95 million



Representative Waterfront Experience

Harbor Square Condominiums

Camden, Maine

Construction Cost: \$ 1,500,000

Completion: 1982

Structural, Mechanical and Electrical Engineering Design Services

Museum of Transportation Study

Boston, Massachusetts

Construction Cost: N/A

Completion: 1975

Structural Investigation of Waterfront Museum

New England Aquarium

Boston, Massachusetts

Construction Cost: \$ 4,000,000

Completion: 1974

Structural, Civil-Site, Mechanical and Electrical Engineering
Design Services

Commercial Wharf

Boston, Massachusetts

Construction Cost: \$ 1,000,000

Completion: 1974

Structural Conversion of Warehouses into Condominiums and Retail
Facilities

Rusty Scupper Restaurant

Boston, Massachusetts

Construction Cost: \$ 50,000

Completion: 1972

Structural Analysis for Conversion of Warehouse into Restaurant

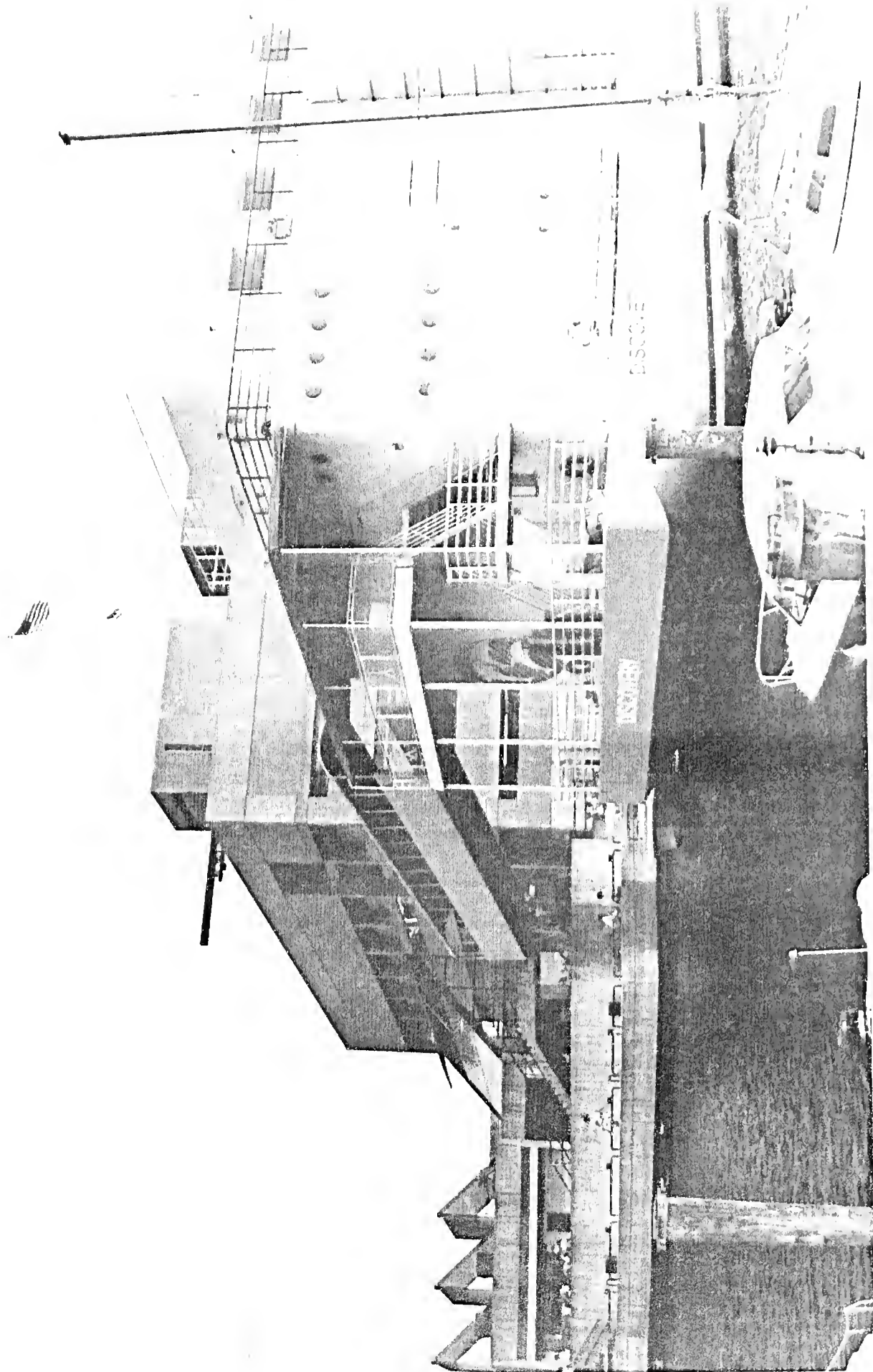
Lewis Wharf

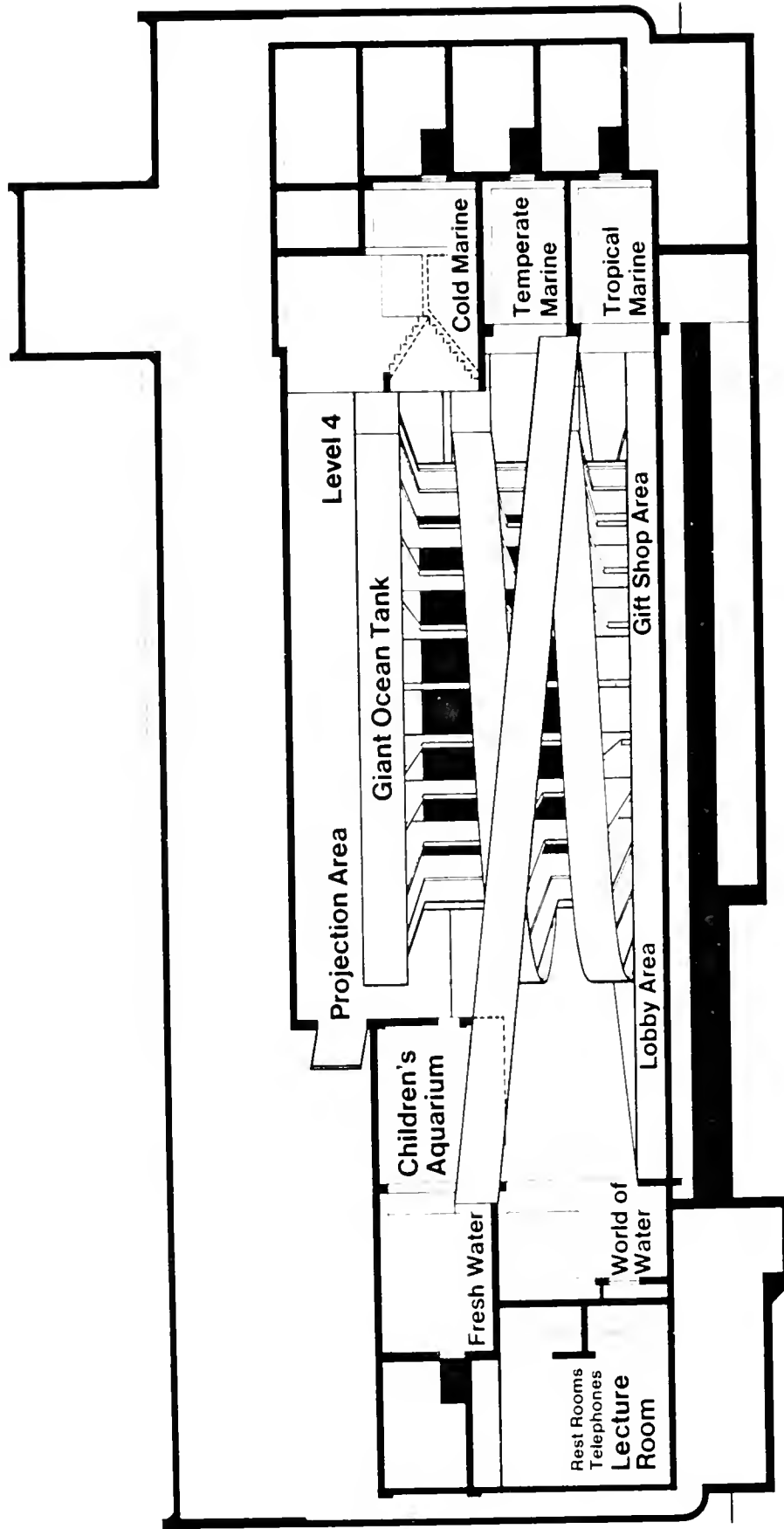
Boston, Massachusetts

Construction Cost: \$ 2,400,000

Completion: 1971

Structural and Civil-Site Studies and Renovations





NEW ENGLAND AQUARIUM
BOSTON, MA.

Design Designs & Devices, Inc.
Cambridge, Massachusetts

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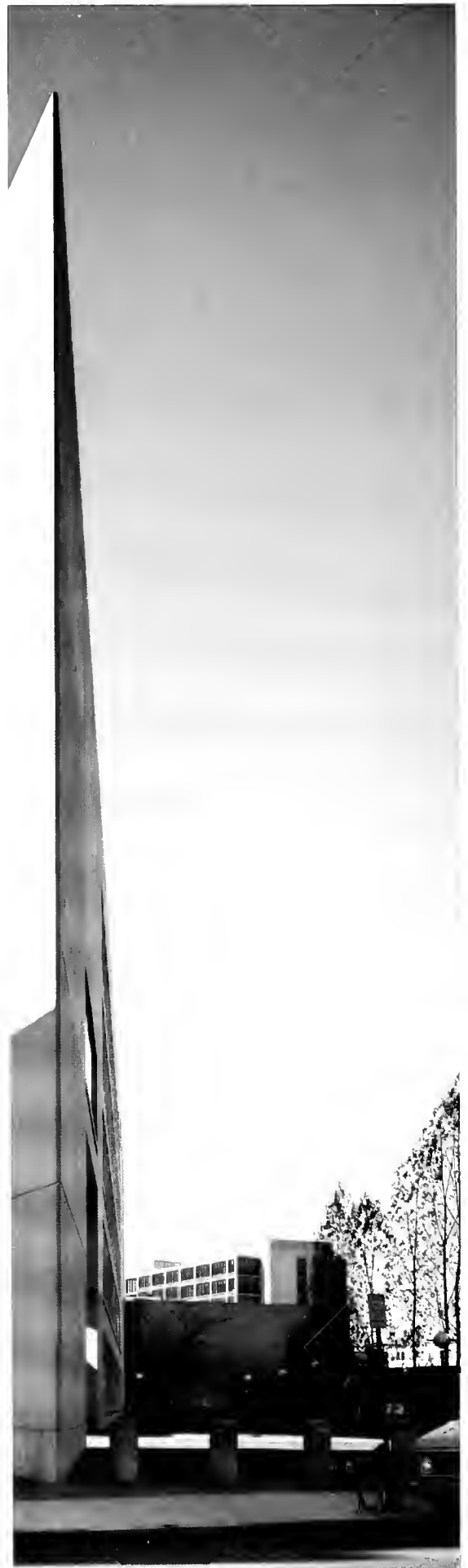
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- Development of control systems aimed at completing projects on or ahead of schedule.
- Excellent working relationships with architects, subcontractors and suppliers, built up and strengthened over the years.
- Purchasing volume sufficient to assure both the interest and the proper performance of subcontractors and suppliers.
- Detailed knowledge of construction costs on a local and current basis.

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C. Vincent Vappi

C. Vincent Vappi
President



Chemical Engineering Building
Massachusetts Institute of Technology
Cambridge, Massachusetts
I. M. Pei & Partners/architects





Component Facility
IBM Corporation
East Fishkill, New York
The Architects Collaborative/architects

Cong. John W. McCormack State Office Building
Commonwealth of Massachusetts
Boston
Hoyle, Doran and Berry/architects





Teaching Hospital
University of Massachusetts Medical School
Worcester, Massachusetts
The Ritchie Organization/architects



City Hall building
Troy, New York
Cadman and Droste/architects



Hospital additions and parking garage
Mount Auburn Hospital
Cambridge, Massachusetts
Perry, Dean & Stewart/architects



South Terminal and parking garage
Massachusetts Port Authority
Logan International Airport
John Carl Warnecke & Associates
and Desmond & Lord/architects



Natick Mall shopping center
Natick, Massachusetts
Sumner Schein/architects



Bunker Hill Community College
Commonwealth of Massachusetts
Boston
Shepley, Bulfinch, Richardson & Abbott/architects



Library addition
Boston Public Library
Philip Johnson and Architects Design Group/architects



Water Pollution Control Facility
Town of Hull
Hull, Massachusetts
Whitman & Howard/architects



Office and classroom building
Harvard Law School
Cambridge, Massachusetts
Benjamin Thompson & Associates/architects



Film manufacturing facility
Polaroid Corporation
North Andover, Massachusetts
Ganteaume & McMullen/architects





200 Unicorn Park Drive
Unicorn Park
Unicorn Park Associates
Woburn, Massachusetts
Jung/Brannen Associates/architects

Hospital additions
Massachusetts Eye and Ear Infirmary
Boston
Walk Jones & Francis Mah/architects



Hilles Library-Seminar
Radcliffe College
Cambridge, Massachusetts
Harrison & Abramovitz/architects



Hyatt Regency Cambridge hotel
Cambridge Hyatt Joint Venture
PIC Realty Corporation,
Retco-Cambridge and Graham D. Gund
Cambridge, Massachusetts
Graham Gund Architects/architects



Office and manufacturing building and warehouse
Gillette Company, Toiletries Division
North Andover, Massachusetts
Perrin Nichols & Company/consulting engineers



Health, Welfare and Education Services Center
Government Center, Boston

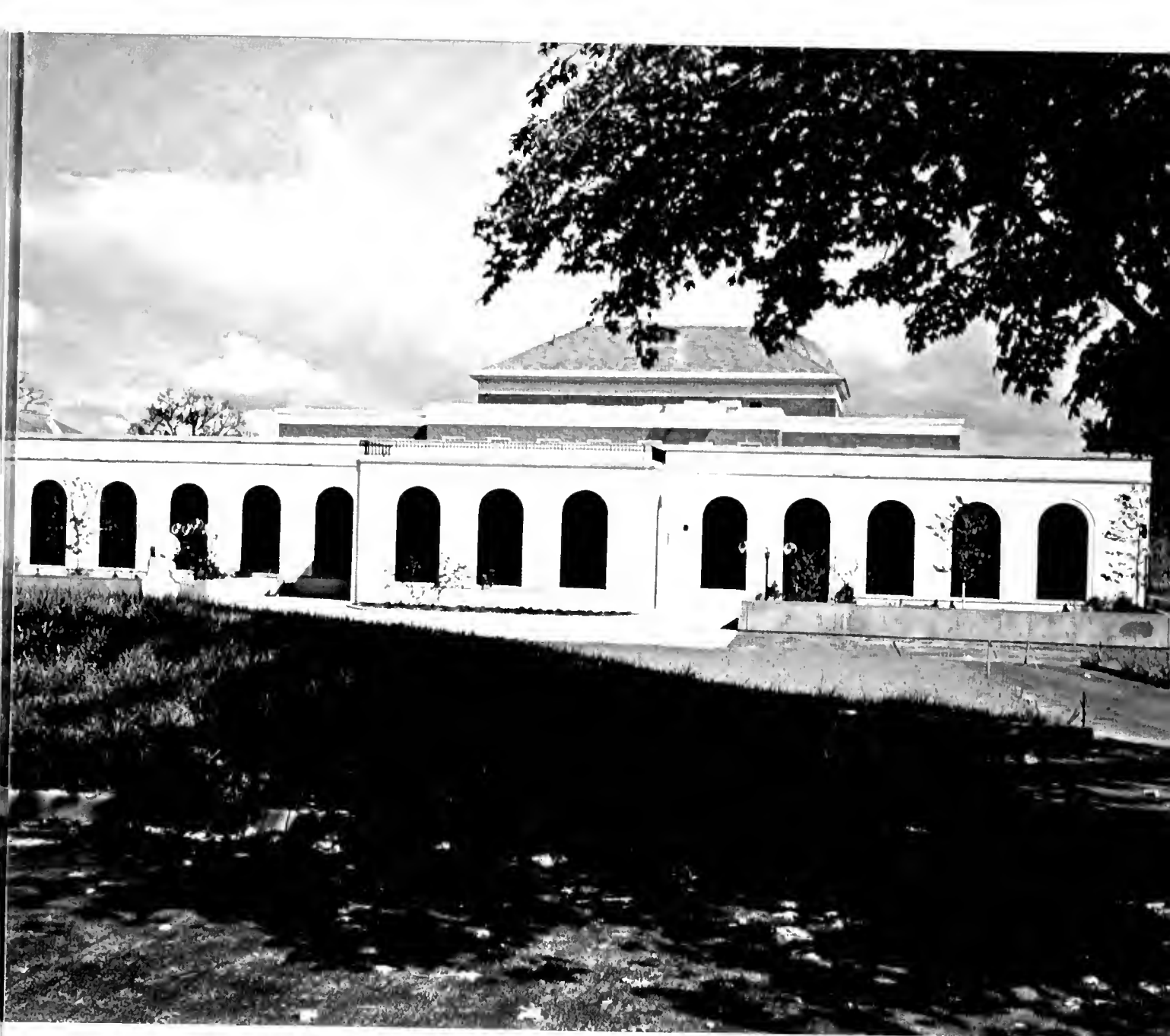
Hospital facility and offices
Massachusetts Division of Employment Security
Desmond & Lord/architects
Paul Rudolph/coordinating architect

Office building
Massachusetts Division of Employment Security
Shepley, Bulfinch, Richardson & Abbott/architects
Paul Rudolph/coordinating architect

Parking garage and plaza
Paul Rudolph/architect



Missile fabrication building
Raytheon Company
Andover, Massachusetts
Ganteaume & McMullen/architects



Library addition
Union College
Schenectady, New York
Walker O. Cain & Associates/architects



Boston University
Law-Education building and Pappas Law Library
Boston, Massachusetts
Sert, Jackson & Gourley/architects
Edwin T. Steffian & Associates/associated architects

Mugar Library
Hoyle, Doran and Berry/architects
Sert, Jackson & Associates/associated architects



Hospital addition
The Faulkner Hospital
Boston, Massachusetts
Perry, Dean & Stewart/architects



Francis Greenwood Peabody Terrace
(apartments for married students)
Harvard University
Cambridge, Massachusetts
Sert, Jackson & Gourley/architects



Critical care building
Waltham Hospital
Waltham, Massachusetts
Keyes Associates/architects



High School
Town of Braintree
Braintree, Massachusetts
Rich, Phinney, Lang & Cote/architects



South Shore Hospital
South Weymouth, Massachusetts
Wilmot, Bower & Quinlan/architects



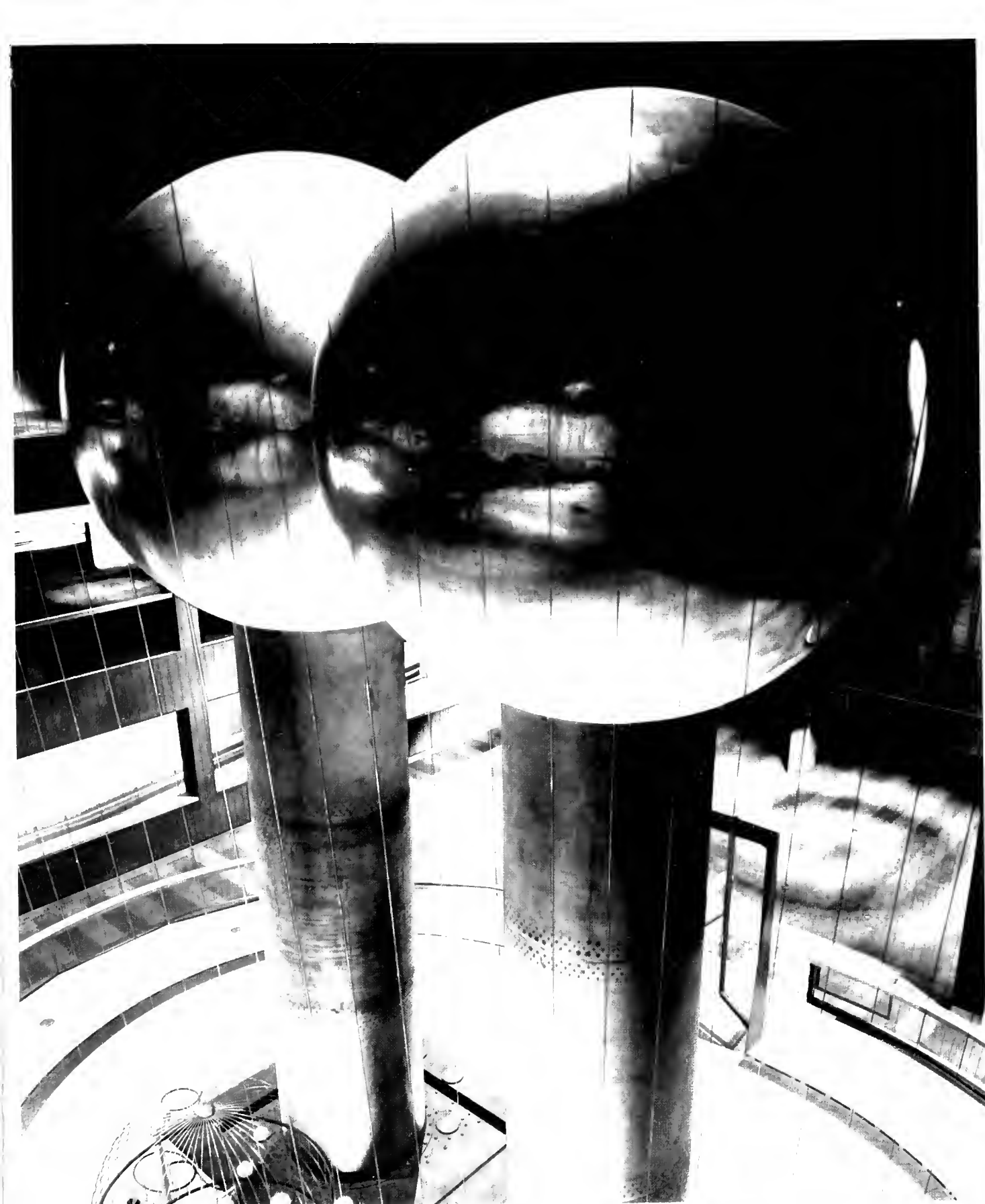
Outpatient building
Boston City Hospital
Samuel Glaser & Partners and Hugh Stubbins
Rex Allen Partnership/architects



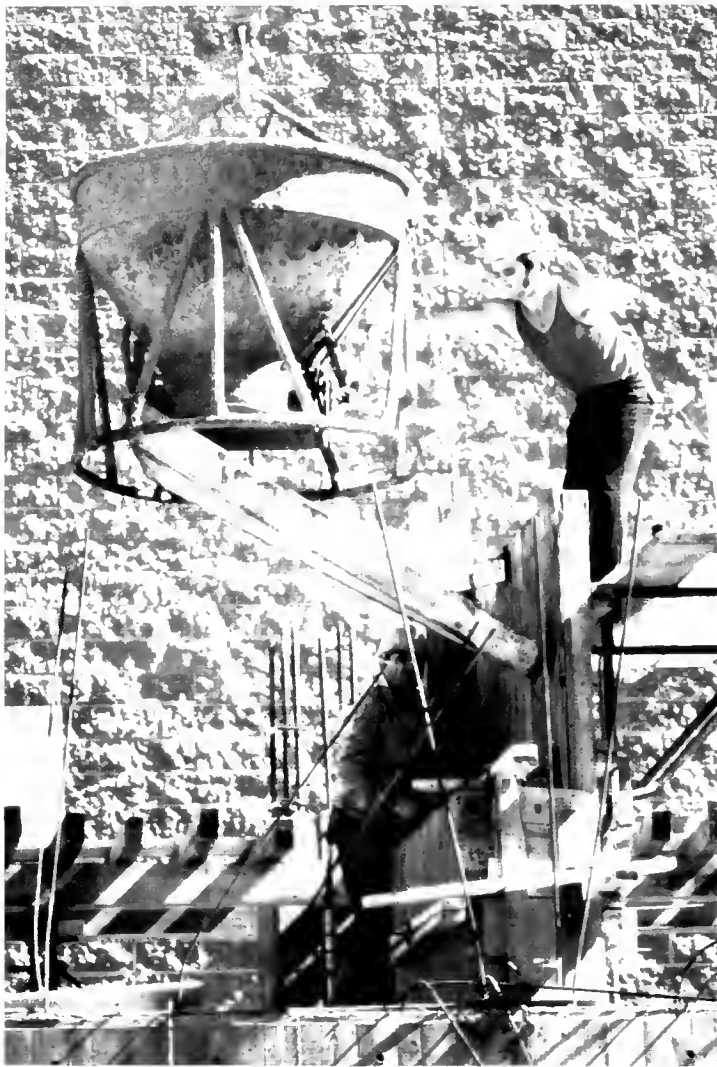
Offices, laboratory and warehouse
Instrumentation Laboratory, Inc.
Andover, Massachusetts
Keyes Associates/architects



Treatment, training and research center
Massachusetts Department of Mental Health
Boston University Medical Center
Desmond & Lord/architects



Theater of Electricity building
Museum of Science
Boston, Massachusetts
E. Verner Johnson Associates architects



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